TEST AND OPERATIONS SUPPORT CONTRACT

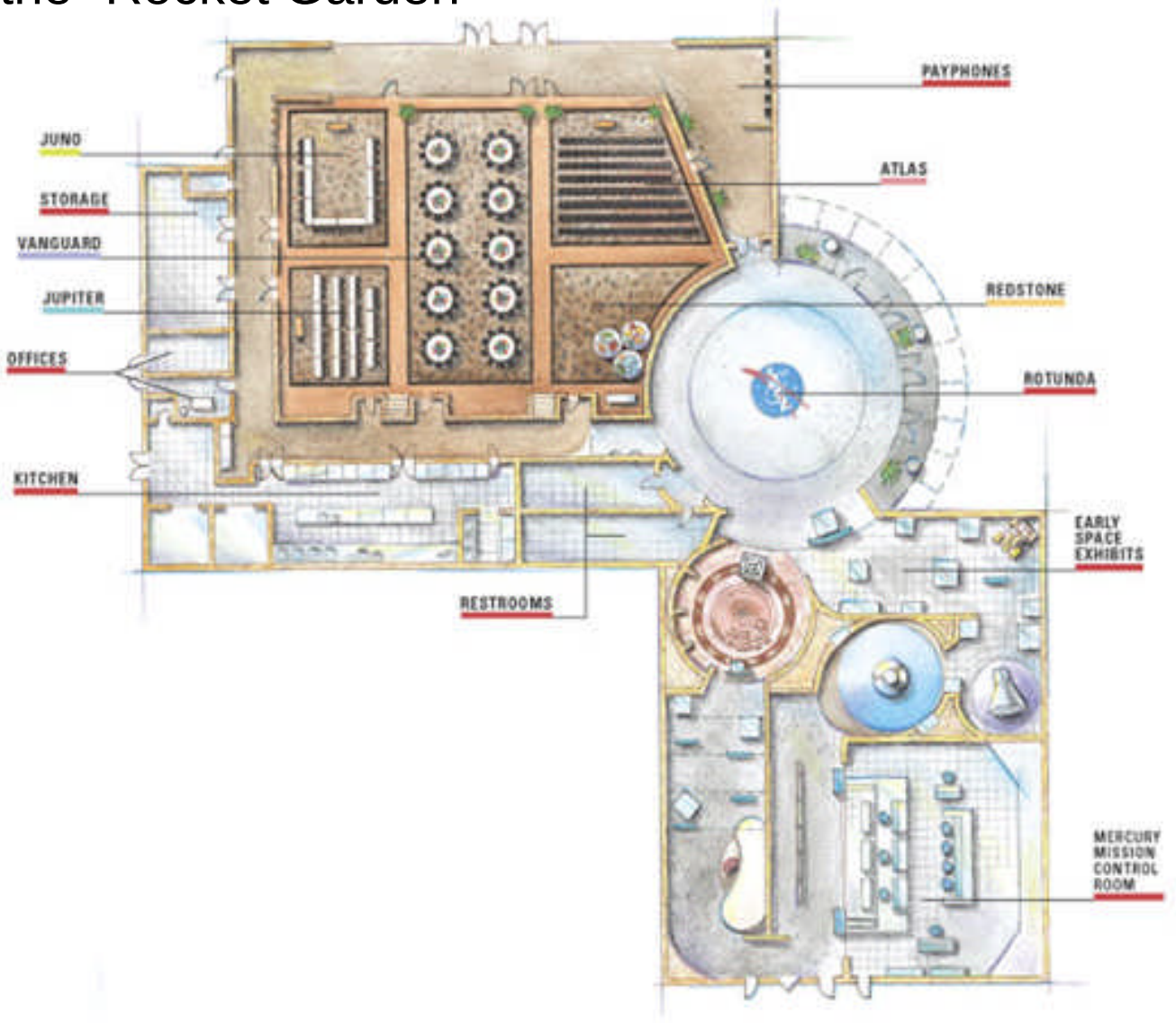
Pre-Solicitation Conference and Site Visit

Test and Operations Support Contract (TOSC)

November 16-18, 2011

Safety and Administrative

- In case of fire or other emergency please proceed to the nearest door marked with an exit sign and leave the building in an orderly fashion and gather in front of the “Rocket Garden”
- Please avoid the service areas except in the case of an emergency for safety and sanitary reasons
- Restrooms are located in the rotunda where you entered the building
- Refreshments are located at the back of the room



Goals of Pre-Solicitation Conference and Site Visits

- Provide an overview of the Programs and TOSC scope
- Provide a better understanding of the TOSC Draft RFP (including terms and conditions, proposal instructions, and evaluation criteria) to promote competition and increase efficiency in proposal preparation, proposal evaluation, negotiation, and contract award
- Provide prospective offerors the opportunity to view facilities and ground systems associated with TOSC

General Information

- These slides are for information and general planning purposes only. No solicitation exists at this time

- This presentation shall not be construed as a commitment by the Government or as a comprehensive description of any future requirements

- If a solicitation is released, it will be synopsized on the FedBizOpps and NASA Acquisition Internet Service web-sites

Questions

- Questions during this presentation should be submitted on the note cards provided. Government may address some questions verbally today
- Questions and answers will also be posted. These written answers will be the official response
- If a difference exists between verbal and written responses to questions, the written responses shall govern

Agenda

Wednesday, November 16, 2011

- Presentations (8:30 a.m. to 11:00 a.m.)
  - Welcome and Overview – Laura Govan
  - International Space Station (ISS) Program – UB/Rob Yaskovic
  - Exploration Systems Development and 21st Century Ground Systems Program – LX/Pepper Phillips
  - KSC Ground Processing Directorate – GP/Scott Kerr
  - TOSC Draft Request for Proposal (RFP) Review – Laura Govan
  - Instructions for Site Visit and One-on-One Meeting – Laura Govan

- Lunch/Conference Room Reconfiguration (11:00 am – 1:00 pm)

- One-On-One Meetings (1:00 pm – 4:00 pm)

Agenda (cont.)

Thursday, November 17, 2011

- Site Visits (8:30 am to 3:00 pm)
  - Meet in KSC Visitor Center Parking Lot # 4
  - Lunch at Multi-Functional Facility (MFF) Cafeteria
- Cost Forms Workshop (9:00 am to 11:00 am)
  - Debus Conference Center

Friday, November 18, 2011

- Site Visits (8:30 am to 12:00 pm)
  - Meet in KSC Visitor Center Parking Lot # 4

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International Space Station (ISS)

Josie Burnett, Director
ISS Ground Processing & Research Project Office (UB)

Robert Yaskovic, Chief, UB Program Planning & Control (Presenter)

Agenda

- KSC ISS Requirements Overview
  - ISS
  - ISS Utilization
  - ISS Research
- Program Interfaces
- Organizational Structure
- Contract and NASA Relationships

Hardware Arrives at Facility

- We assist customers with transportation needs to ship their hardware to KSC via air, land or sea, International or domestic.
- After offload operations, KSC will assist customer with delivery to processing facility.
- Warehousing, Depot, Transition & Retirement (T&R)

Logistics

Orbital Replacement Unit (ORU) Processing –

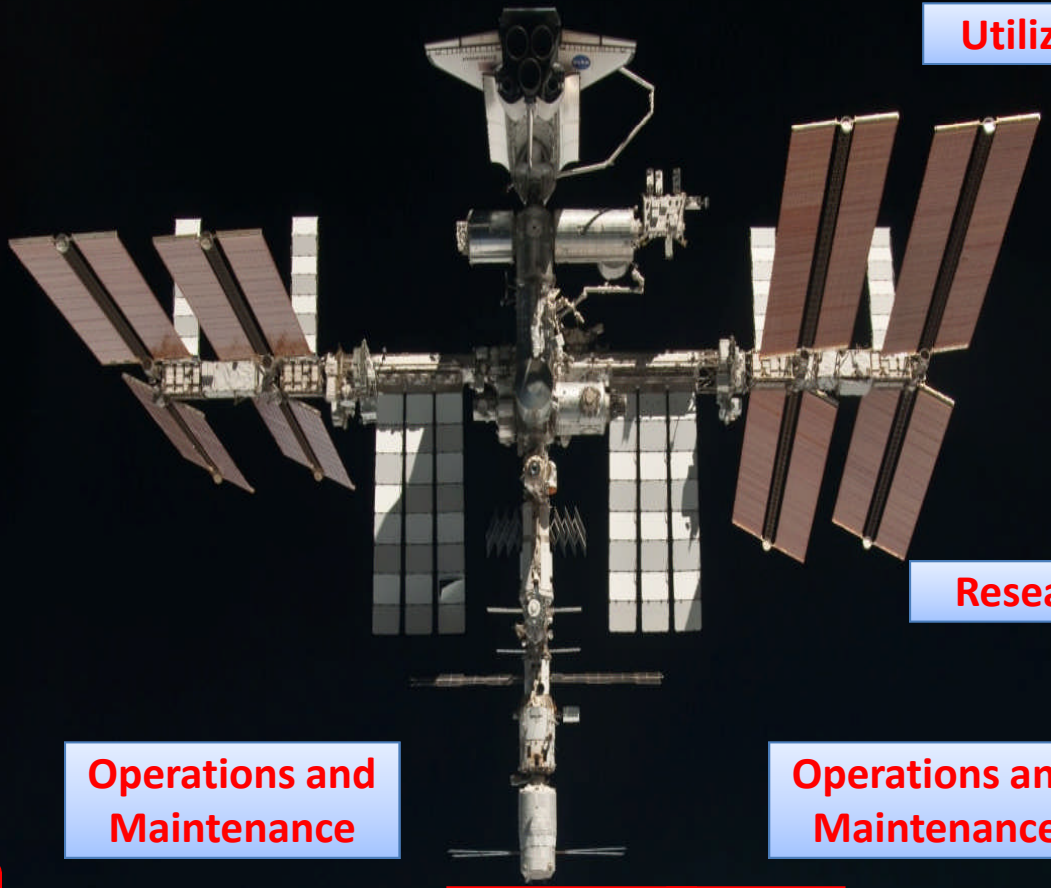
- Assembly, servicing, integration, depot, maintenance and repair, and transportation to launch site.

ORUs

Utilization

- Processing and support to hardware and science processing for NASA, International Partners, National Laboratory and commercial customers

Utilization



ISS-Research (ISS-R)

- Mission integration for life science payloads developed at KSC and payloads partnered with other customers.
- Research Center for Plant Biology

Research

Launch Support

- Launch Support as Required
- Operating & Maintaining ground systems and support equipment.

Operations and Maintenance

Integration with Launch Vehicle

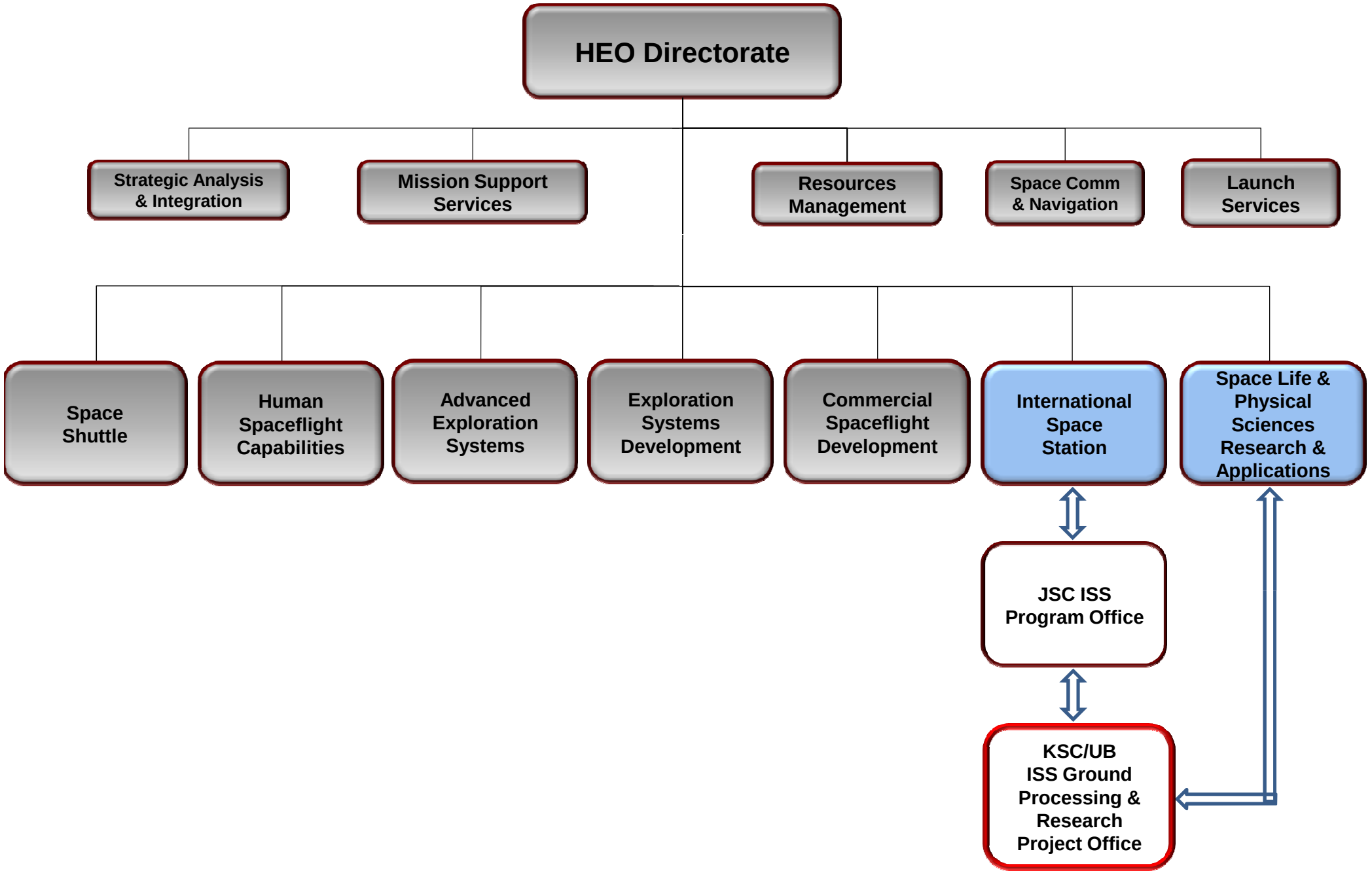
- Assist with integration of hardware at launch site (KSC or other location) including late access operations at the launch site.

Operations and Maintenance

Transportation to Launch Site

- Assist the customer in shipment of hardware to the launch site whether it is at KSC or other location.

Human Exploration and Operations (HEO) Mission Directorate Interfaces



ISS Program Interfaces

International Space Station Program

- AA for Human Exploration and Operations Mission Directorate — HQ/M-1
- Assist. AA Director for ISS — HQ/M-1
- **Program Manager**
- **Deputy Manager(s)**
- **Operations Integration Manager** — OA111
- Program Projects Integration
- ISS COTR's
- Director, Human Space Flight Programs, Russia — OK111

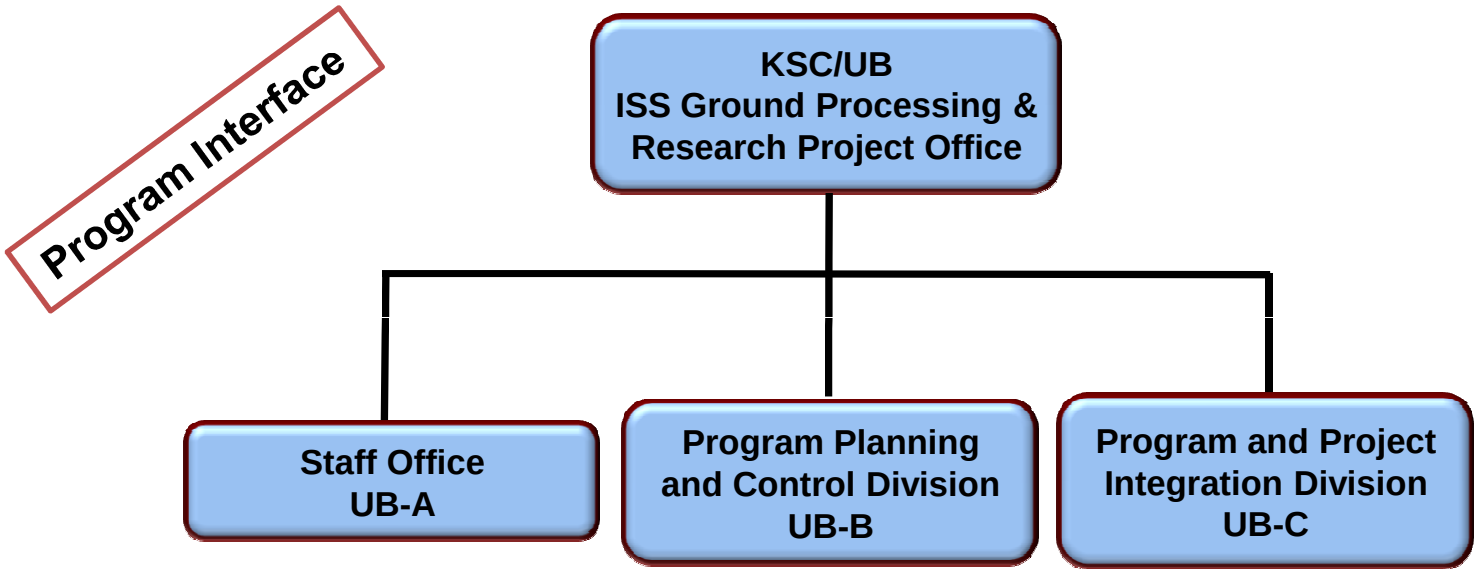
Manager, International & Crew Operations — Sr. Advisor Exploration & Space Ops Tech Liaison at ESA
Travel Coordinator/Correspondence Control — Secretaries
Conference Room Coordinator — Executive Assistant
Facilities Coordinator — ISS Administrative Officer

- Transportation Integration Office — ON111
- ISS External Integration Office — OX111
- S&MA/Program Risk Office — OE111
- Program Planning & Control Office — OH111
- Program Integration Office — OM111
- Mission Integration & Operations Office — OC111
- Payloads Office — OZ111
- Avionics & Software Office — OD111
- Vehicle Office — OB111
- EVA Office — XA
- Mission Operations Support — DA
- **KSC ISS Project Office** — KSC/UB
- Space Systems Programs Projects Office — MSFC/SP01
- JSC/EA Engineering Support — EA4

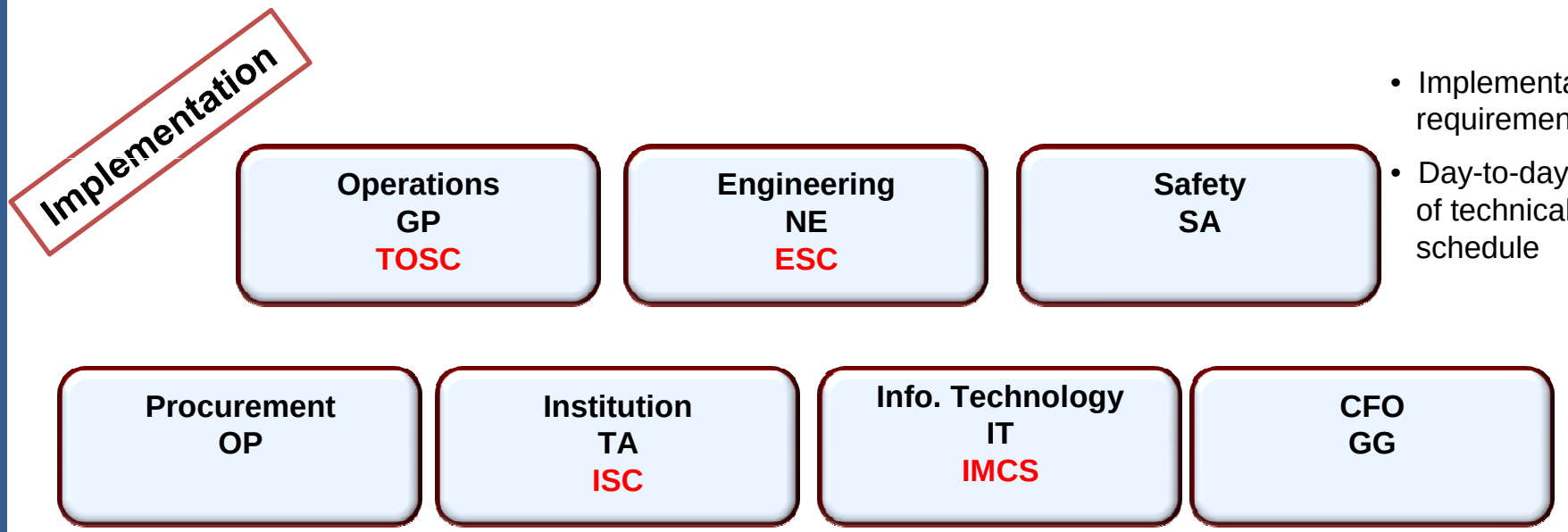
ISS Utilization

ISS Ground Ops and ORU Processing

KSC Organization



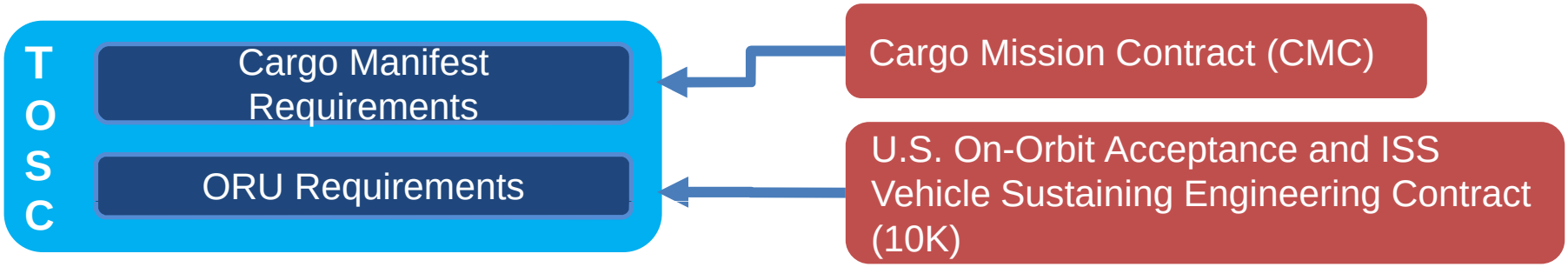
- Program-level baseline control for requirements, technical, cost and schedule
- Program and Project Management of ISS requirements performed by KSC implementation organizations



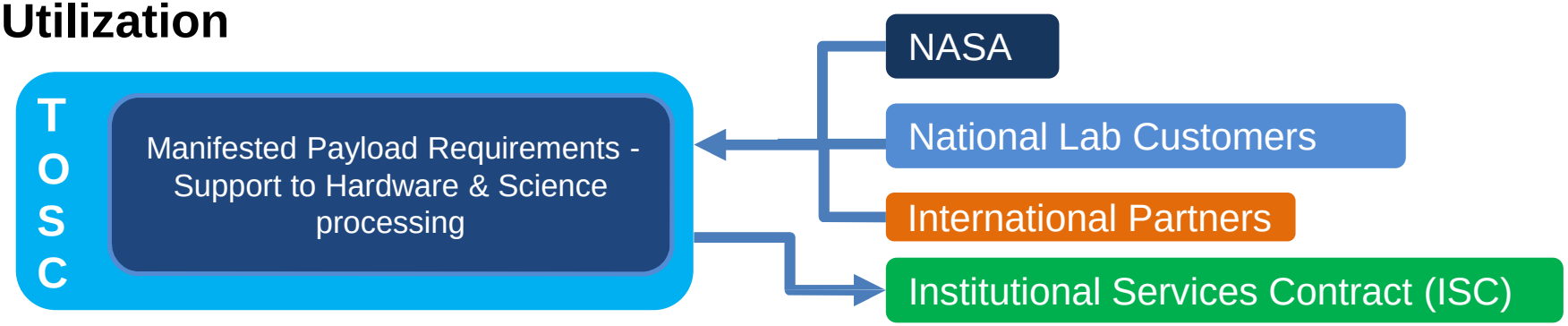
- Implementation of ISS requirements
- Day-to-day management of technical, cost, and schedule

Contracts & NASA Relationships for ISS Requirements

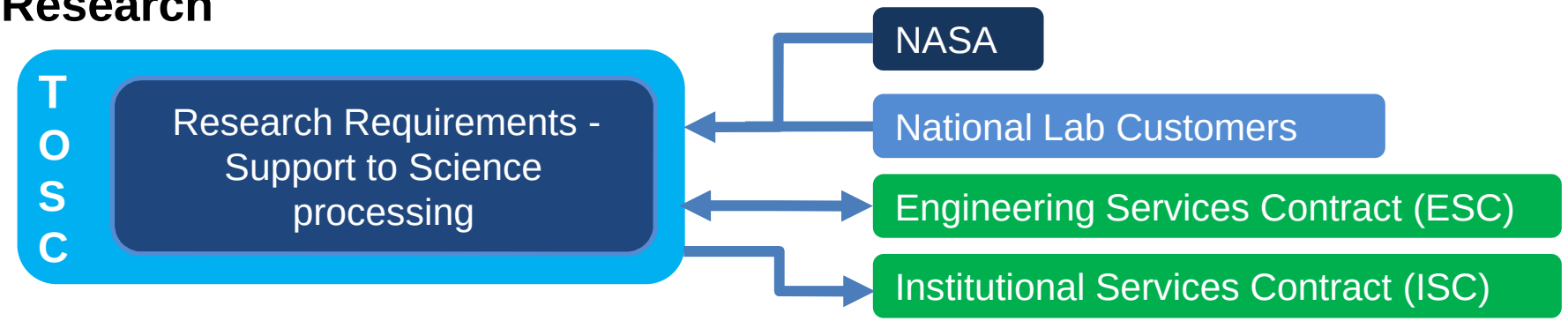
- **ISS ORU Processing**



- **ISS Utilization**



- **ISS Research**



The Future of Space Exploration

This is the beginning of a new era in space exploration where we will build the capabilities to send humans deeper into space than ever before.

We will use the **International Space Station** as a test bed and stepping stone for the challenging journey ahead.

We are changing the way we do business, fostering a commercial industry that will safely service low Earth orbit so we can focus our energy and resources on sending astronauts to **NEO's.**

The road ahead is challenging but this approach and space exploration architecture puts us in a position to go where no human has gone before.

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21st Century Ground Systems Program

National Aeronautics and Space Administration

www.nasa.gov

21st Century Ground Systems Program Agenda

- Programmatic Overview
- Organizational Structure
- Architectures
- Concepts of Operation

21st Century Ground Systems Overview
Program Summary

- **2010 Authorization Act Language**
  - Primary purpose of which is to prepare infrastructure at the Kennedy Space Center that is needed **to enable processing and launch of the Space Launch System**.
  - Vehicle interfaces and other ground processing and payload integration areas should be simplified to **minimize overall costs, enhance safety**.
  - Investments to operations at the Kennedy Space Center, to **enhance the overall capabilities** of the Center, and to **reduce the long term cost of operations and maintenance**

- **21 CGSP concepts support NASA & potential commercial users**
  - Architectures and investments **enable multi-use** capability
  - **Reduced footprint** for NASA programs
  - 21st CGSP investments focus on **common infrastructure**

21CGS Overview
Potential Users & Partners Collaboration

Potential Users

- Commercial Partners
- Commercial Crew
- COTS/CRS
- Orion
- SLS
- LSP
- USAF SMC
- USAF AFRL

Potential Partners

- 21st Century
- KSC
- Space Florida
- USAF 45th SW

21 CGS Overview
Program Planning Evolution

21 Century Ground Systems Program Planning

Enable Commercial,
Do not Preclude Heavy Lift

SLS Primary,
Enable Commercial

Integrated 21st CGSP Plan

CxP closeout and extensibility

HEAT ⇨ HEFT ⇨ HAT

HEC ⇨ ESD

Architectures Refinement Cycles (ARC's) Initiated

SLS Senate Authorization

HEC Formation

FY12 Presidents Budget

21CGS Program Office Stand Up

FY11 funding released for investments

ARC 7.0 Apr 2012

ARC 3.0
November 2010
What is the launch site architecture?

ARC 4.0
February 2011
How is the architecture Allocated?

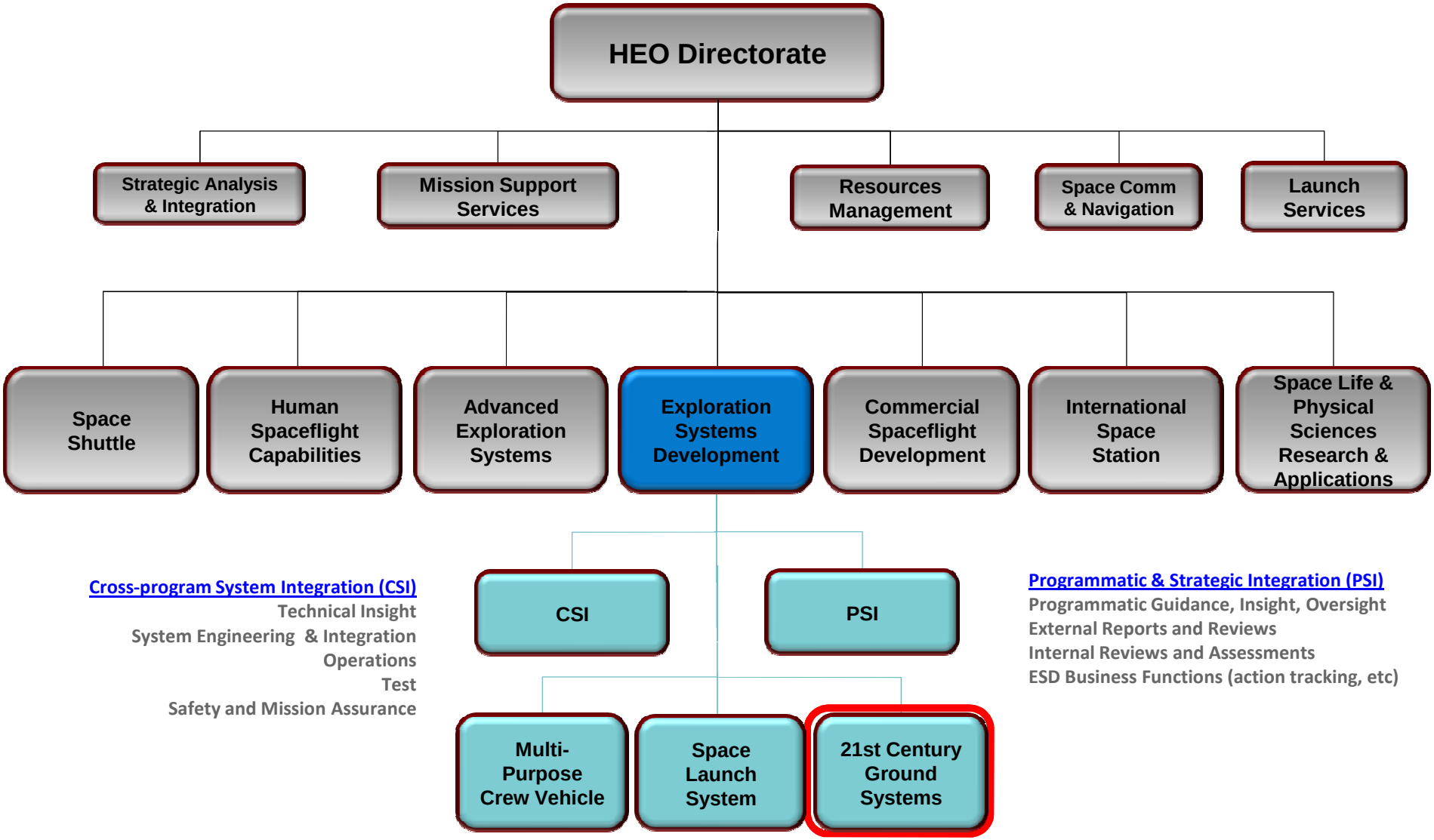
ARC 6.0
Sept 2011
Optimize the Ground Systems Architecture

21 CGSP MCR Dec 2011

21 CGSP SRR/SDR Aug 2012

KSC Organization

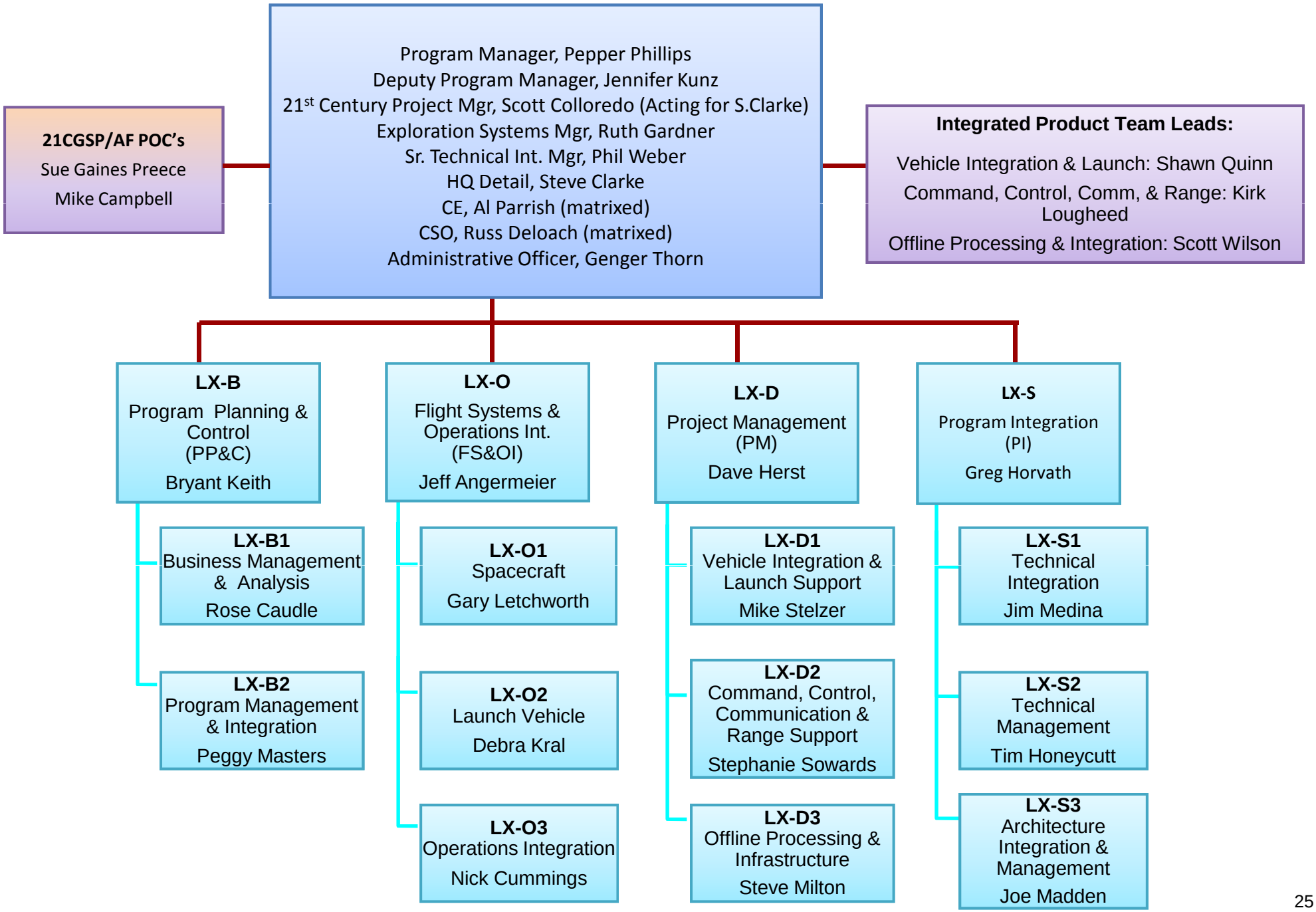
Exploration Systems Development Organization



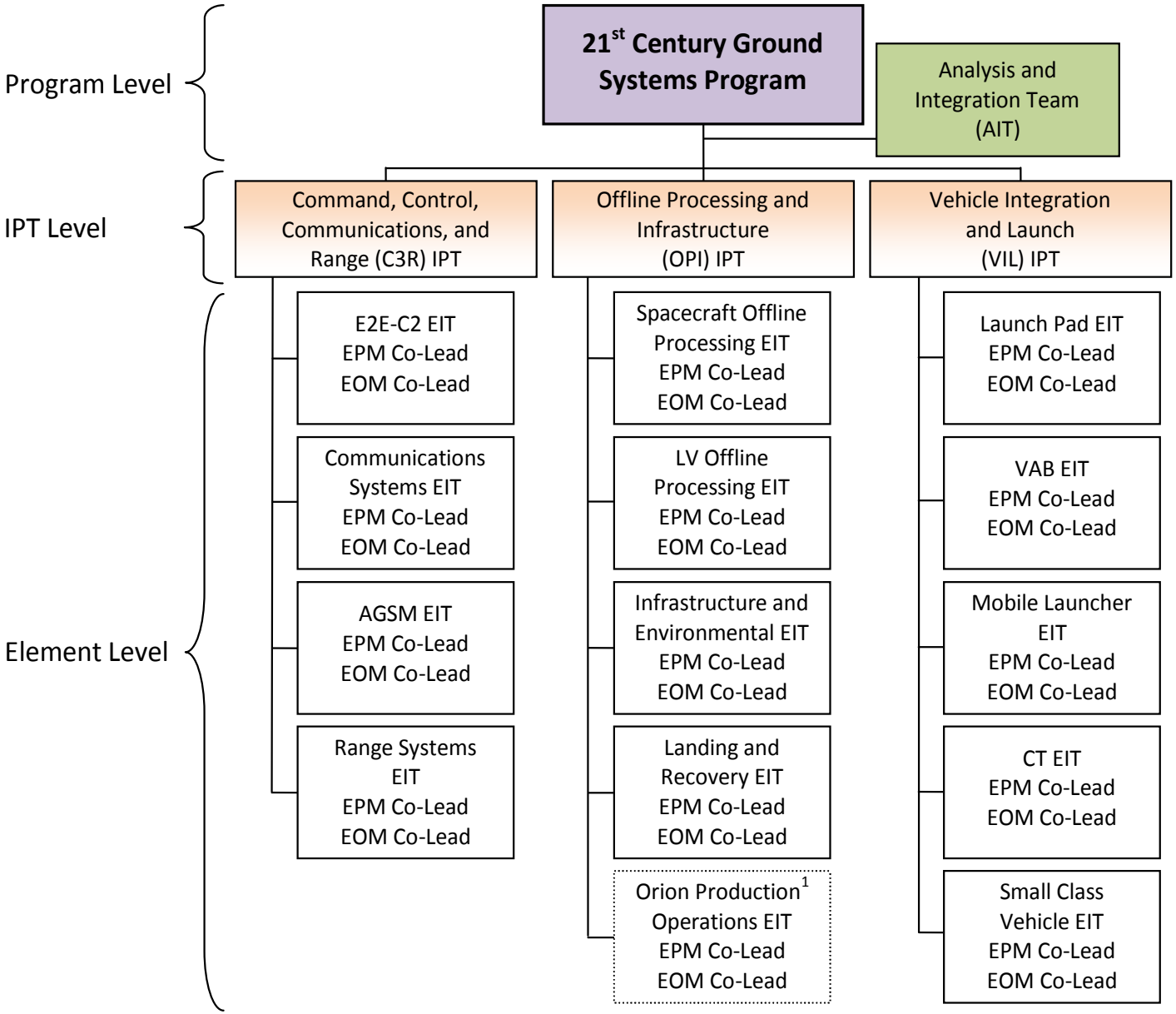
Cross-program System Integration (CSI)
Technical Insight
System Engineering & Integration
Operations
Test
Safety and Mission Assurance

Programmatic & Strategic Integration (PSI)
Programmatic Guidance, Insight, Oversight
External Reports and Reviews
Internal Reviews and Assessments
ESD Business Functions (action tracking, etc)

21st Century Ground Systems Program Organizational



Program Office Organizational Concept



Functional Organization to provide:

- Consistency across projects
- Clear interface to HQ
- Clear interfaces to SLS, MPCV, Commercial Customers, and the Range
- Clear interfaces to the institutional organizations

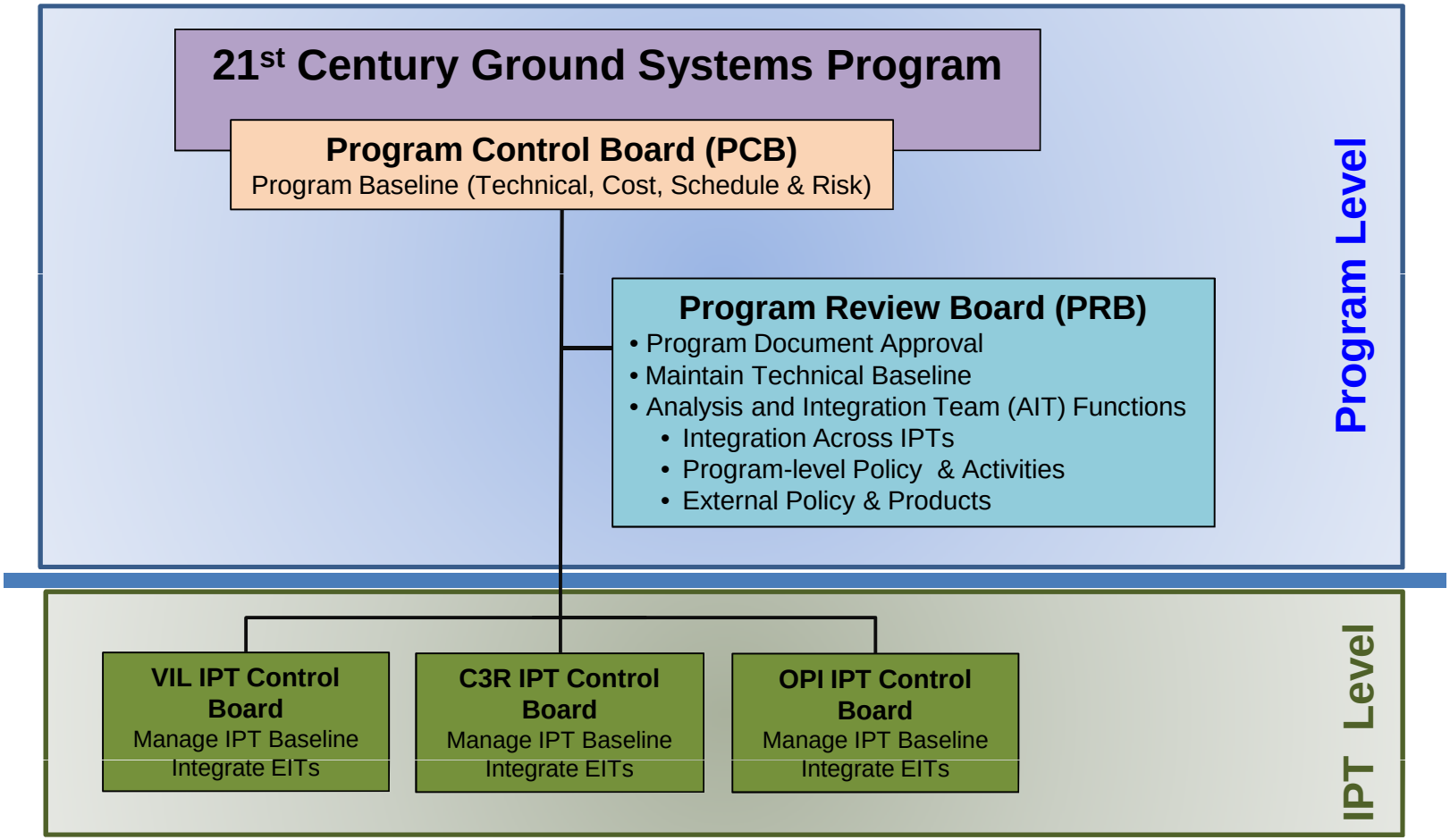
Integrated Product Teams and Element Integration Teams to implement the work:

- Stronger integration between development and operations
- Stronger integration with institutional organizations
- Enables multi-use ground development
- End to end implementation responsibility

AIT – Analysis and Integration Team
IPT – Integrated Product Team
EIT – Element Integration Team

[1]The Orion Production Operations EIT is in direct support of the MPCV Program and has a separate funding stream from JSC.

21CGS Board Structure



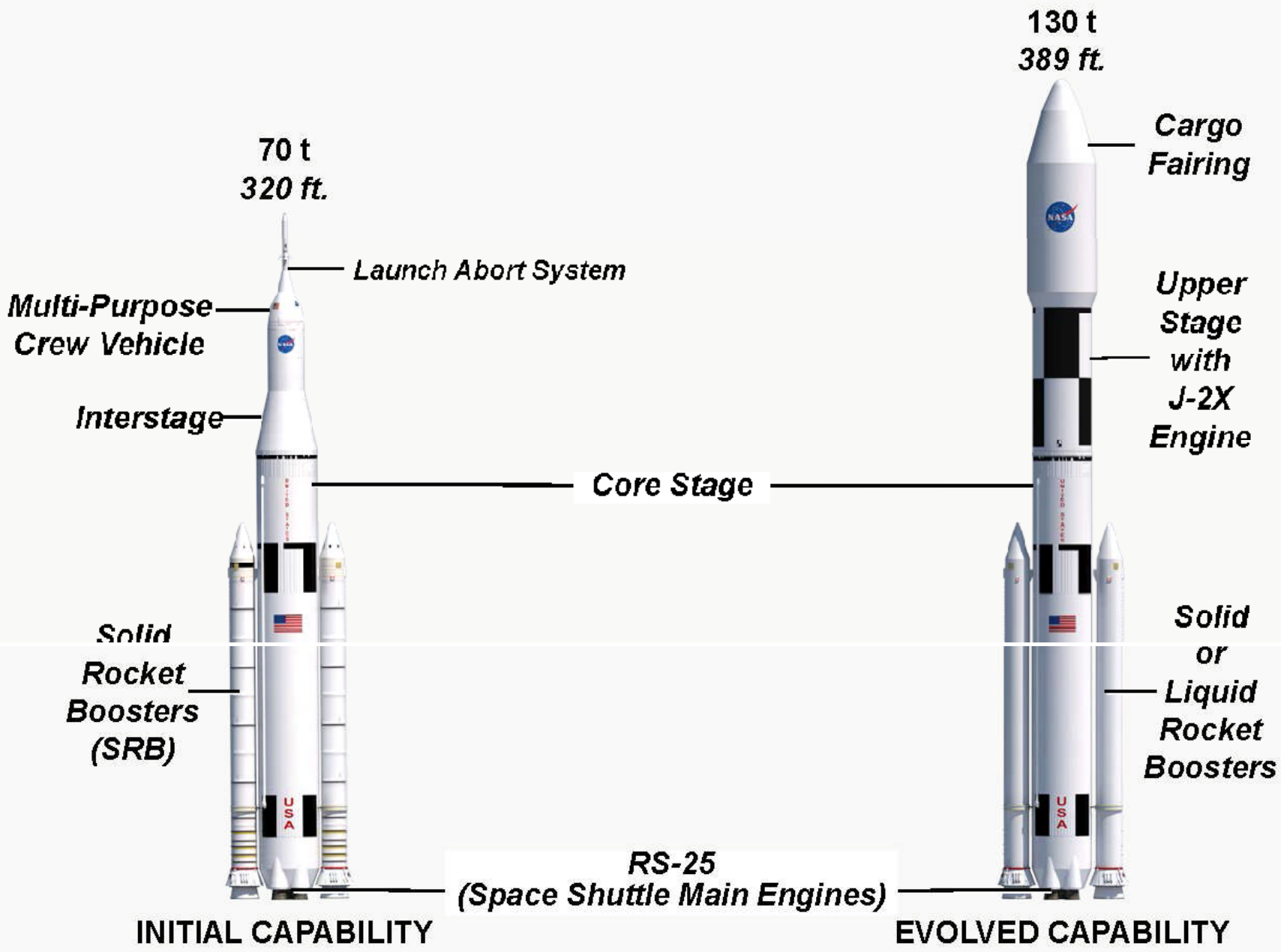
Guidelines:

- No “Pre-board” gates (go directly to appropriate level board for approval)
- Decisions should be made at the lowest authorized approval level
- Decisions will be documented and communicated
- Agenda screening process requires member sponsorship/coordination

SLS Driving Objectives

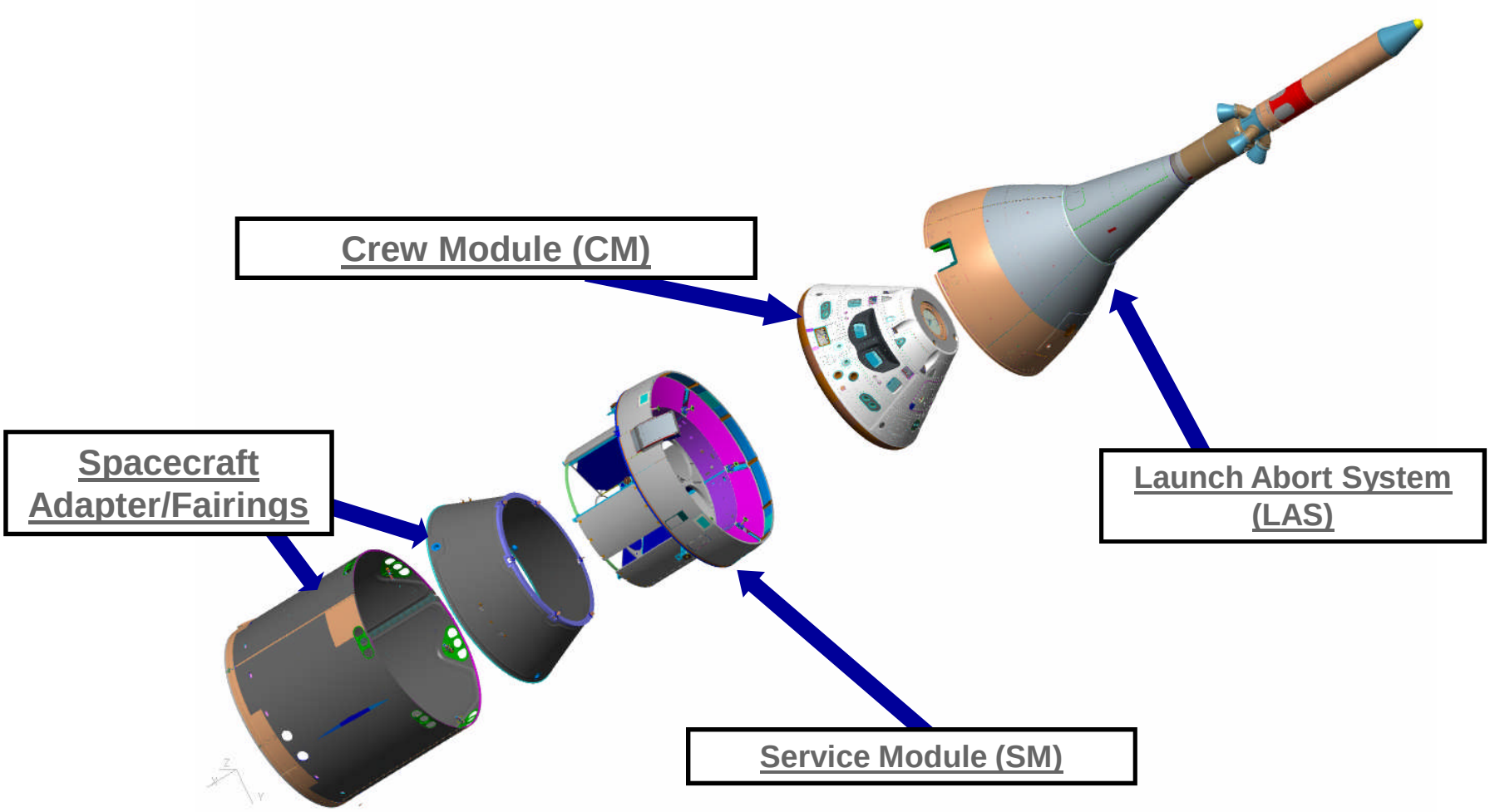
- **National Heavy-Lift Capacity**
  - 70 tonnes (t) evolvable to 130 t
  - Serves as primary transportation for MPCV and exploration missions
  - Provides back-up capability for crew/cargo to ISS
  - Offers volume for science missions and payloads of national importance
- **Safe**
  - Loss of Crew: 1/700
  - Loss of Mission: 1/100
- **Affordable**
  - Constrained budget environment, with no planned escalation
  - Maximum use of common elements and existing assets, infrastructure, and workforce
- **Near-Term Capability**
  - First flight in 2017

SLS Concept Maximizes Existing U.S. Aerospace Workforce and Capabilities



Leverages Existing Contracts, While Competing the Future

Initial Orion Configuration



Convert CxP Mobile Launcher for SLS

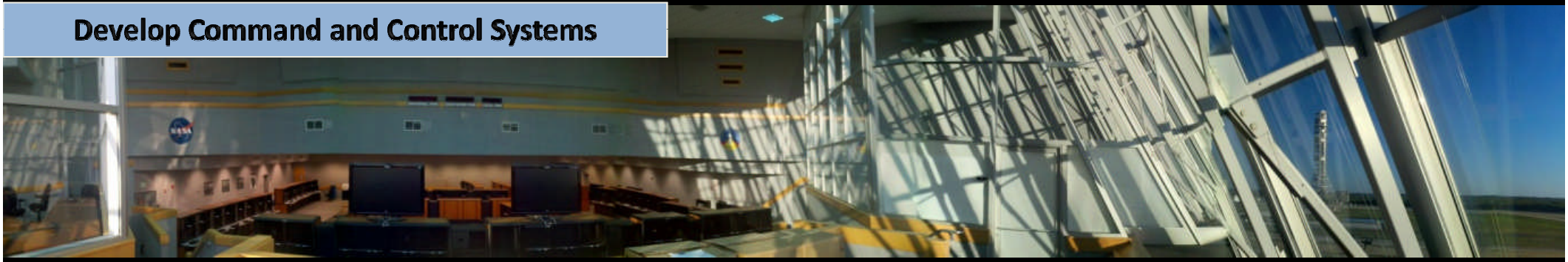
Conversion of LC-39 to support SLS and commercial use

Modernize Range Infrastructure

Convert MPPF for MPCV and commercial use (under review)

Convert SLF for horizontal launch and landing (under review)

Develop Command and Control Systems



21st CGSP Planned Project Investments

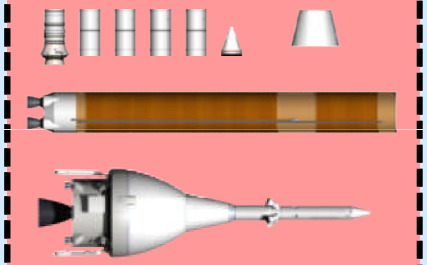
ARC 6.0 Final PoD Architectures
Multi-Use Concept of Operations

Three classes of potential users through LC-39

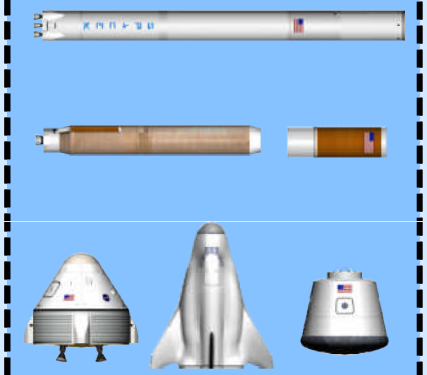
ARC 6.0 Final PoD
JML 10/7/11

SUPPORTED PROGRAMS

SLS/Orion



Commercial Programs



Test Flight Programs

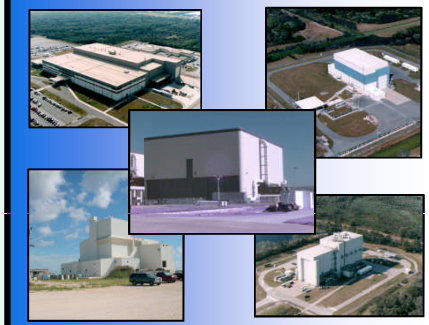
OPERATIONS AND CAPABILITIES

Delivery

- SLF
- Rail
- Turn Basin
- Over Road Transport

Offline Payload and Spacecraft Processing

- SSPF
- EPF
- OPF
- MPPF
- PHSF



Offline LV Processing

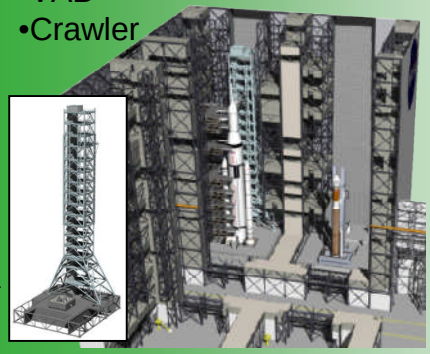
- RPSF

Vehicle Integration and Launch

Integration

Vertical

- ML
- MLP
- VAB
- Crawler

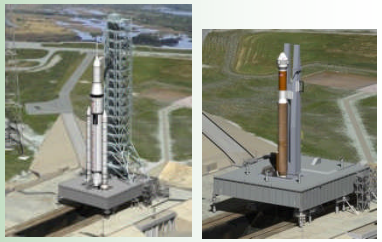


Horizontal

- SLF Hangar

Launch

Launch Pad 39A/B



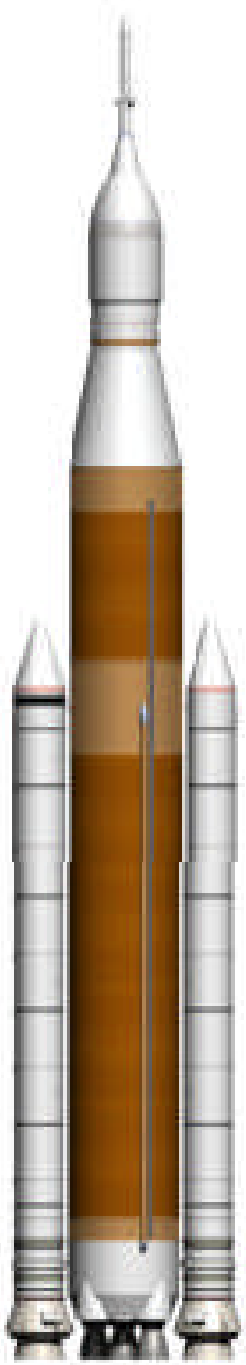
SLF

C3 & Range

Landing & Recovery

- CM Recovery
- Horizontal Landing

SLS/Orion Concept of Operations



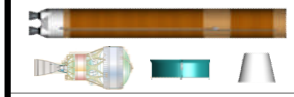
Receive at CRF *

Offline Spacecraft Processing

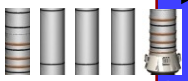
MPPF (Under Review)

Receive at Barge Terminal

Transport to VAB



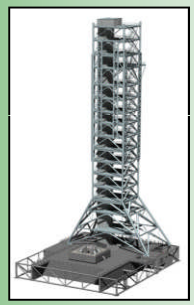
Transport Elements to VAB

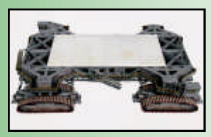


CCC & Range

Vehicle Integration and Launch

Vehicle Integration & Test





Transport to pad

Launch Pad 39 B

Lift-Off

No SRB Recovery (Under Review)

Offline SRB Processing

*

Transport to RPSF

*

Transport to ARF

Aft Skirt Assembly And Fwd Assembly Build-up

Transport Aft Skirt to RPSF

Landing & Recovery

CM Landing

CM & Crew Recovery

West Coast Recovery & Transport to KSC for De-servicing

* Not TOSC scope

Building the gateway
to extend the human presence
across the solar system

21st Century Ground Systems Program

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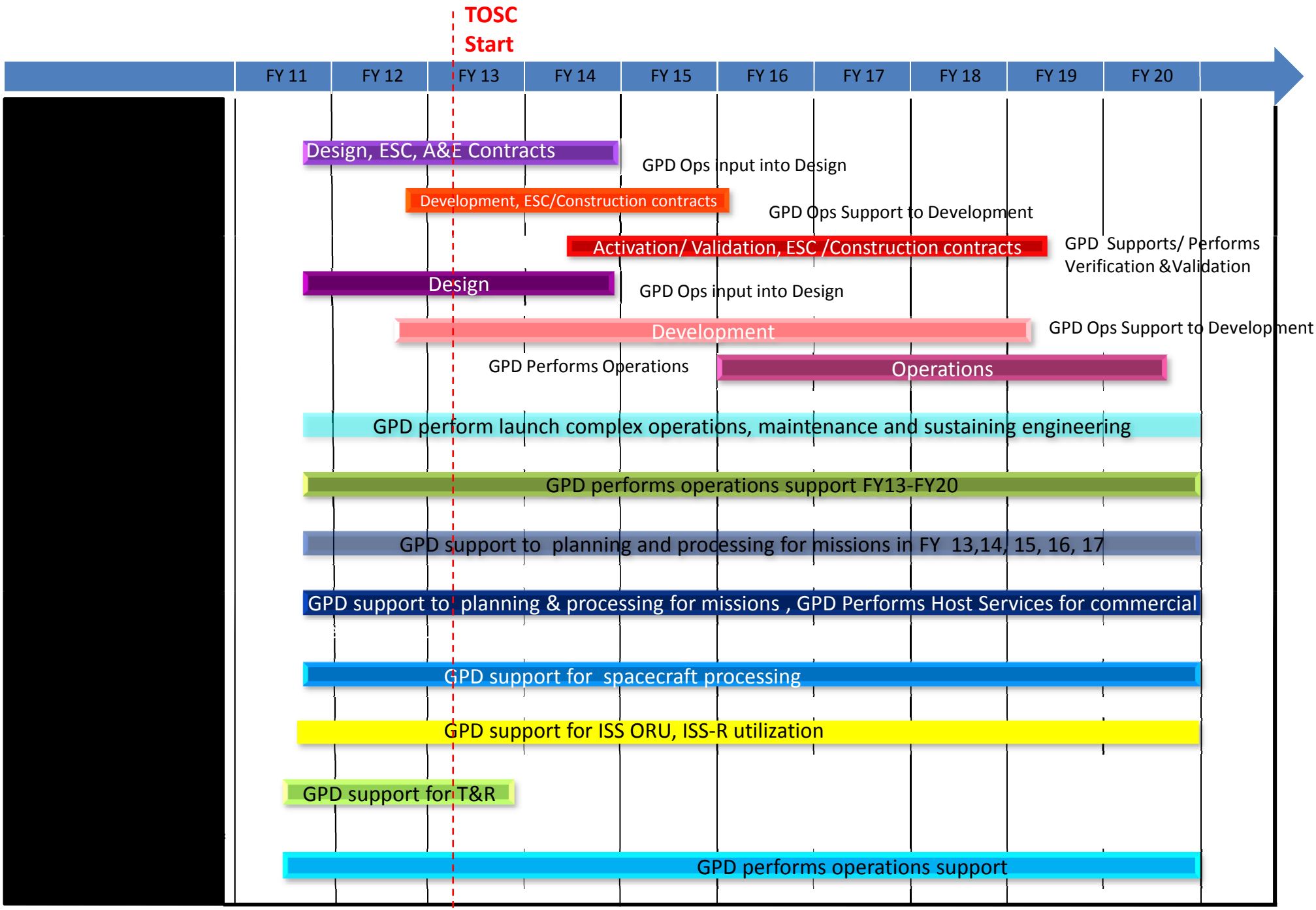
Ground Processing Directorate (GPD)

Overview

November 16, 2011

GPD Customer Requirements Timeline



GPD and TOSC Customers and Services

- **International Space Station (ISS) Ground Processing and Research Project**
  - Day to day operations and processing contractor oversight, element and ORU processing, utilization and research support for ISS manifest
  - Perform ground systems Operations and Maintenance (O&M) and logistics services
- **21st Century Ground Systems**
  - Operations technical expertise for design and development
  - Verification and Validation of launch complex systems
  - Perform launch complex operations, maintenance and sustaining engineering
  - **Space Launch System (SLS)**
    - Support design and development of SLS heavy lift launch vehicle providing operations technical expertise for concept development, systems test and evaluation
    - Perform ground processing, test, integration and launch operations for SLS vehicle
  - **Multi-Purpose Crew Vehicle (MPCV)**
    - Provide operations technical expertise
    - Perform ground processing, test and fueling of MPCV spacecraft prior to launch vehicle integration
- **Launch Services Program (LSP)**
  - Support for LSP spacecraft host services and integrated scheduling

GPD Customers and Services

- **Commercial Crew**
  - Provide operations technical expertise for human space launch
  - Provide O&M and initial configuration of launch complex core infrastructure for use by commercial providers (e.g., LCC, crawler, mobile launcher, pad, host services, etc.)
- **Shuttle Transition and Retirement**
  - Provide support to T&R Project Office for launch infrastructure and GSE safing and disposition
  - Flight hardware safing and display preparation
  - Not within TOSC scope
- **Other NASA Test Activities and Demonstration flights**
  - Spacecraft and payload processing, test and integration
- **Kennedy Space Center**
  - Operate and maintain assigned KSC launch complex systems and capabilities not associated with NASA programs

GPD coordinates and integrates multi-contractor processing support and implementation activities across the Center

Ground Processing Directorate

GP

Scott Kerr **Director**

Pete Nickolenko **Deputy Director**

Liaison Office
GP-B
Randy Segert ***Chief**

Project Control Division
GP-C
Lisa Loiselle **Chief**

Configuration Management Branch
GP-C1
Jim Draus **Chief**

Business and Contract Management Branch
GP-C2
Mary Hall **Chief**

Ground Systems Division
GP-G
Perry Becker **Chief**
John Kiriazes **Deputy**

Ground Systems Integration Branch
GP-G1
Greg Breznik **Chief**

Structural Systems Branch
GP-G2
Larry Jones **Chief**

Fluids and Mechanical Systems Branch
GP-G3
Tom Marren ***Chief**

Electrical Control and Data Branch
GP-G4
Steve Swichkow **Chief**

Information Systems and Applications Branch
GP-G5
Bill Bartley **Chief**

Logistics Division
GP-L
Norm Tokarz **Chief**
Anne Gawronski **Deputy**

Development & Acquisition Logistics Branch
GP-L1
Debbie Bayline **Chief**

ISS Depot and Logistics Branch
GP-L2
Luis Moctezuma **Chief**

Operational Logistics and Launch Site Support Branch
GP-L3
Maria Stelzer **Chief**

Processing and Operations Division / GP-O
Charlie Blackwell-Thompson **Chief**
Shawn Greenwell **Deputy**

Studies and Analysis Branch / GP-O1
Phil Mead **Chief**

Operations and Planning Branch
GP-O2
Robert Holl **Chief**

Launch Complex Operations Branch
GP-O3
Steve Payne **Chief**

Technical Integration Office / GP-O4
Steve Lewis ***Chief**

Electrical, Avionics, and Communications Systems Branch / GP-O5
Hung Nguyen **Chief**

Mechanical and Fluids Systems & Handling Br
GP-O6
Richard Kuhns ***Chief**

* Acting

Roles and Responsibilities

- **Director's Office –** (Scott Kerr/Director, Pete Nickolenko/Deputy Director)
  - Provide leadership, guidance, and strategic planning
  - Assure program and center requirements assigned to GP are performed

- **Admin Office** - (Debbie Preston)
  - Provide administrative services to the directorate including personnel, awards, badging and training

- **Liaison Office** - (Randy Segert - Acting Chief)
  - NASA AF Management Office (NAMO)
  - KSC Weather Office functions

Project Control Division (Lisa Loiselle - Chief)

- **Configuration Management** (Jim Draus - Chief)
  - Requirements management
  - Data management
  - Records management
  - Certificate of Flight Readiness support
  - Control board management and support

- **Business and Contract Management** (Mary Hall - Chief)
  - Provide directorate budget and resource management
  - Task agreement management
  - COTR for Test and Operations Support Contract (TOSC)

Logistics Division (Norm Tokarz – Chief) (Anne Gawronski - Deputy Chief)

- **Development and Acquisition Logistics Branch** (Debbie Bayline - Chief)
  - Provide logistics analysis and planning in support of future programs

- **ISS Depot and Logistics** (Luis Moctezuma - Chief)
  - Provides management and integration of ISS logistics elements including end-of-program disposition of ISS hardware

- **Launch Site Infrastructure Support** (Maria Stelzer - Chief)
  - Provides logistics management and integration of legacy and future flight hardware , and ground systems (non ISS) including support for end-of-program disposition of Shuttle T&R hardware
  - Directorate focal point for legacy property

Processing and Operations
(Charlie Blackwell-Thompson - Chief)
(Shawn Greenwell - Deputy Chief)

- **Studies and Analysis** (Phil Meade - Chief)
  - Development and integration of KSC operations concepts, trade studies, technical and cost assessments in support of ongoing and future NASA, commercial and other government agencies programs and projects.
- **Operations and Planning** (Robert Holl - Chief)
  - Responsible for support of daily implementation and execution of NASA activities associated with operations, processing, test, launch, and recovery of existing and emerging Programs/Projects.
- **Launch Complex Operations** (Steve Payne - Chief)
  - Supports coordination and execution of launch complex daily flight hardware processing and operations for the center.
- **Technical Integration** - (Steve Lewis - Acting Chief)
  - Responsible for leading the technical integration of NASA activities associated with operations, and processing operations for existing and emerging Programs/Projects.
  - Provide “host services” support to requesting customers.
  - Development of detailed models, simulations, and training to maintain operational proficiency
- **Electrical, Avionics, and Communications Systems** (Hung Nguyen - Chief)
  - Provide engineering support to flight hardware processing, launch, recovery and program transition operations.
- **Mechanical and Fluids Systems and Handling** (Richard Kuhns - Acting Chief)
  - Provide engineering support to flight hardware processing, launch, recovery and program transition operations.

Ground Systems Division (Perry Becker – Chief) (John Kiriazes – Deputy Chief)

- **Ground Systems Integration** (Greg Breznik - Chief)
  - Perform planning and coordination for day to day activities associated with launch complex infrastructure to support launch vehicle, spacecraft and payload processing
- **Structural Systems** (Larry Jones - Chief)
  - Engineering support of assigned structural systems
- **Fluids & Mechanical Systems** (Tom Marren - Acting Chief)
  - Engineering support of assigned ground fluids and mechanical systems
- **Electrical , Control and Data** (Steve Swichkow - Chief)
  - Engineering support of assigned ground electrical, control and data systems
- **Information Systems and Applications** (Bill Bartley - Chief)
  - Engineering and system administration of assigned administrative, business and operational data systems

TOSC Contract Management

- GPD will be the contract management organization for TOSC
  - Contracting Officer's Technical Representative (COTR) for TOSC will reside in the Ground Processing Directorate
  - Contracting Officer (CO) will be co-located with the GPD Business and Contract Management Office
- GPD will integrate award fee input from all customers (e.g., ISS/UB, 21CGS/LX) and prepare the award fee report for presentation to the fee determining official

TOSC Contract Management

- GPD will manage the TOSC in order to provide services to multiple NASA, other government agency and commercial customers
- GPD will serve as the primary interface for TOSC activities
  - Integration of customer requirements, planning, resource management, scheduling and operations support
- Planning and operations will require ongoing interaction between the customers and TOSC management, business and technical support personnel

Agenda

Wednesday, November 16, 2011

- Presentations (8:30 a.m. to 11:00 a.m.)
  - Welcome and Overview – Laura Govan
  - International Space Station (ISS) Program – UB/Rob Yaskovic
  - Exploration Systems Development and 21st Century Ground Systems Program – LX/Pepper Phillips
  - KSC Ground Processing Directorate – GP/Scott Kerr
  - TOSC Draft Request for Proposal (RFP) Review – Laura Govan
  - Instructions for Site Visit and One-on-One Meeting – Laura Govan

- Lunch/Conference Room Reconfiguration (11:00 am – 1:00 pm)

- One-On-One Meetings (1:00 pm – 4:00 pm)

Procurement Objectives

- Provide a single processing contract to promote synergy of ground processing activities across multiple customers
  - Existing and emerging NASA programs, commercial companies and other government agencies
- Enable and support commercial space industry (e.g., NASA partners such as Commercial Crew and other commercial ventures) via Spaceport Services
- Achieve safe and successful ground, launch and recovery operations
- Maximize competition to promote best value for government (combination of performance and cost)
- Provide flexible contract structure and encourage flexibility to support evolving requirements and accommodate fluctuations in work load
- Maximize new and innovative approaches, encourage continuous improvement, and reduce operational life-cycle costs
- Encourage small business participation
- Incorporated Industry feedback to reduce proposal requirements

TOSC Scope

- Base Contract Scope
  - Provide overall management for single processing contract supporting multiple customers, including program management and control, safety and mission assurance, IT systems and data management, work planning, control, integrated scheduling, configuration management, flight hardware processing, ground systems management, and logistics services
- Programmatic Support:
  - ISS Program Support
    - Orbital Replacement Unit (ORU) Processing: Assembly, servicing, integration, depot maintenance and repair, and transportation to launch site
    - Utilization: Processing and support to hardware and science processing for NASA, International Partners, National Laboratory and commercial customers
    - ISS Research (ISS-R): Mission integration for life science payloads developed at KSC and payloads partnered with other customers
    - Operations and Maintenance (O&M) of associated ground systems and support equipment
    - Logistics services in support of flight systems processing and ground system O&M
  - LSP Spacecraft Customer Support
    - Host services such as receiving, offloading, transportation and security of spacecraft
    - Support to planetary protection laboratory

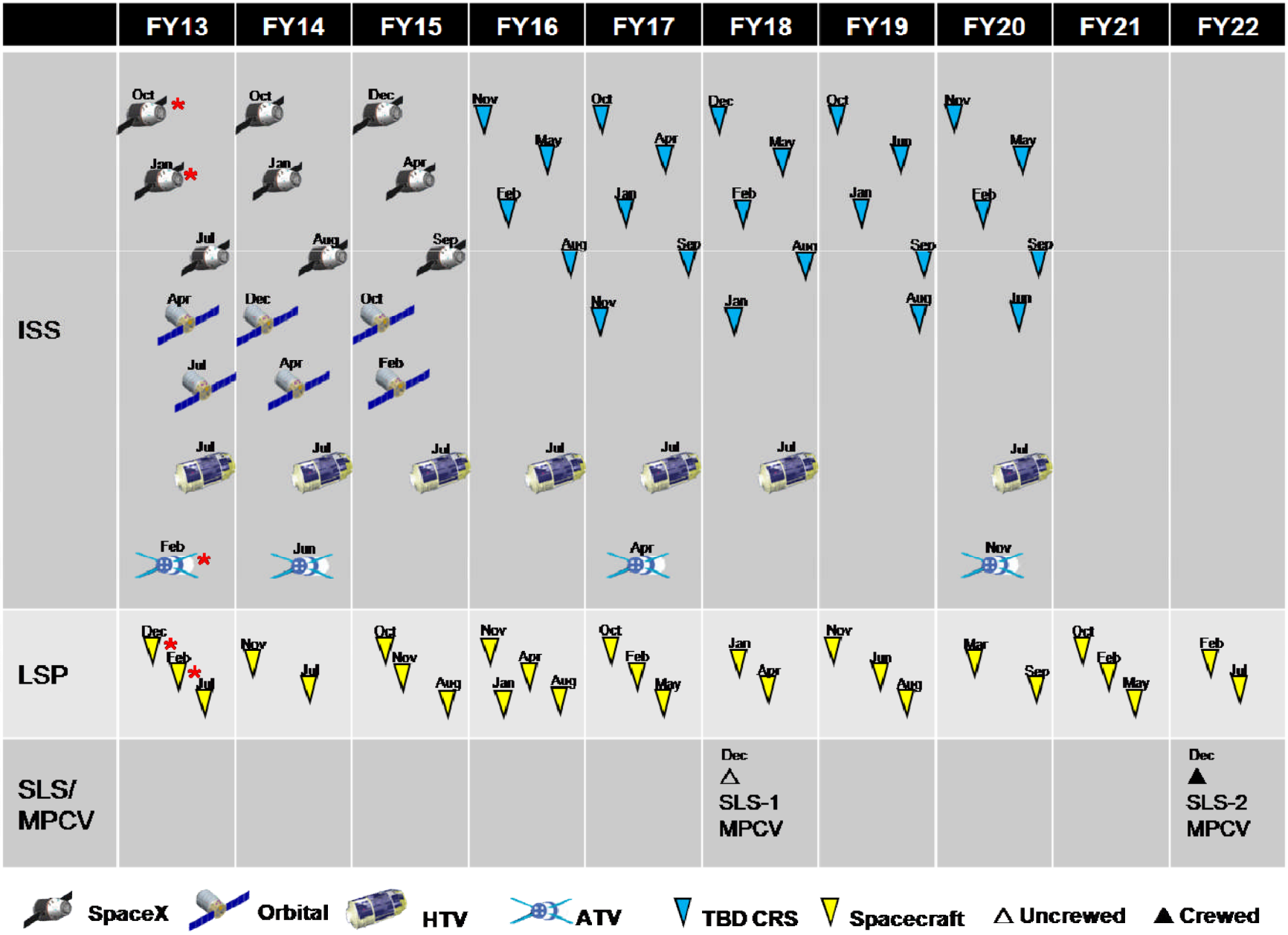
TOSC Scope (cont.)

- Programmatic Support (continued):
  - Exploration Systems Development (ESD) Support for 21CGS, SLS, and MPCV Programs
    - Advanced planning and operations technical expertise for design and development of flight and ground systems
    - Verification and validation, O&M, and sustaining engineering of ground systems used for processing, test, and checkout of flight elements and integrated launch vehicle, and launch
    - Logistics services in support of flight systems processing and ground system O&M
    - Offline element processing including MPCV hypergolic propellant loading and fluids servicing, cargo processing and stowage, SLS element processing, receiving and transportation of all elements to the Vehicle Assembly Building (VAB)
    - Integrated operations including assembly, test and checkout of vehicle elements and vehicle integration in the VAB
    - Launch operations including prelaunch mobile launcher and pad validations, propellant loading, fluids servicing, final preparations and launch
    - Recovery operations support and post-flight processing of MPCV crew module

TOSC Scope (cont.)

- IDIQ Content Scope
  - Provide spaceport access to TOSC services, capabilities, and expertise to NASA partners including commercial entities and other government agencies
  - Spaceport Services include:
    - Development of designated ground systems
    - Test, checkout and integration of customer flight hardware
    - Servicing and processing of customer launch vehicle, spacecraft, and payloads
    - Launch, landing or recovery support of customer flight hardware
    - Other services including but not limited to advanced planning; support to design and development of flight hardware or ground systems; ground systems O&M; logistics; and safety and mission assurance services

TOSC Manifest



TOSC Contracting Approach

- Contract type: Cost-plus-award-fee (applicable to all CLINs)
  - CLIN 001: Base and IDIQ content
    - Base content: PWS Sections 1-7
      - ISS, LSP, 21CGS, SLS and MPCV requirements
      - Revisions to milestones, missions, schedules, manifests and/or processing requirements are baseline changes and will be accomplished as a contract change and not via IDIQ
    - IDIQ content: PWS Section 8 (Spaceport Services)
      - Task orders will be issued for PWS Section 8 requirements
      - Task orders will be administered at the contract level within CLIN 001
  - Priced Option CLINs:
    - CLIN 002: Thermal Protection System Manufacturing Capability
    - CLIN 003: International Space Station Transition and Retirement
    - CLIN 004: Retrieval and Disassembly Systems and Operations

TOSC Contracting Approach (cont.)

- Period of performance: 9.75 years (includes basic and option periods)
  - Basic and option period structure
    - Basic period: Jan 2013 – Sept 2014 (1 year, 9 months)
    - Option period 1: Oct 2014 – Sept 2016 (2 years)
    - Option period 2: Oct 2016 – Sept 2018 (2 years)
    - Option period 3: Oct 2018 – Sept 2019 (1 year)
    - Option period 4: Oct 2019 – Sept 2020 (1 year)
    - Option period 5: Oct 2020 – Sept 2021 (1 year)
    - Option period 6: Oct 2021 – Sept 2022 (1 year)
- Contract phase-in: Nov 2012 – Dec 2012 (60 days)
  - Separate firm-fixed-price purchase order
- Contract start: Jan 2013

TOSC Contracting Approach (cont.)

- Type of Competition: Full and Open
  - NAICS code: 541712 Research and Development in the Physical, Engineering, and Life Sciences (except Biotechnology)
  - Small business size standard: 1,000 employees
  - Subcontracting goals (% total contract value, basic and all options combined)
    - Small Businesses: 22 %
    - Small Disadvantaged Business Concerns: 5 %
    - Women-Owned Small Business Concerns: 2 %
    - Veteran-Owned Small Business Concerns: 3 %
    - Service-Disabled Veteran-Owned Small Business Concerns: 1 %
    - HUBZone Small Business Concerns: 1 %

Procurement Timeline

✓ Sources Sought Synopsis	November 5, 2010
✓ Industry One-on-One Discussions	January 25 to February 4, 2011
✓ Issue Draft Performance Work Statement (PWS)	August 5, 2011
✓ Industry Day	August 30, 2011
✓ Issue Draft Request for Proposal (RFP)	September 30, 2011
✓ Draft RFP Comments Due	October 28, 2011
Industry Pre-Solicitation Conference/Site Visit	*November 16 – 18, 2011*
Issue Final RFP	Early December 2011
Initial Proposals Due	Mid February 2012
Competitive Range/Discussions	July 2012
Final Proposal Revisions Due	Mid August 2012
Contract Award	October 2012
Contract Phase-in Period	November to December 2012
Contract Start	January 2013

Schedule assumes discussions will be necessary for successful award

KSC Contracting for Services Model

Spaceport Customers

NASA Programs - Commercial Users - Other Government Agencies

KSC Spaceport Service Contracts

Information Management and Communication Services (IMCS)
Provider and integrator of information technology, voice, imaging, and data communications services

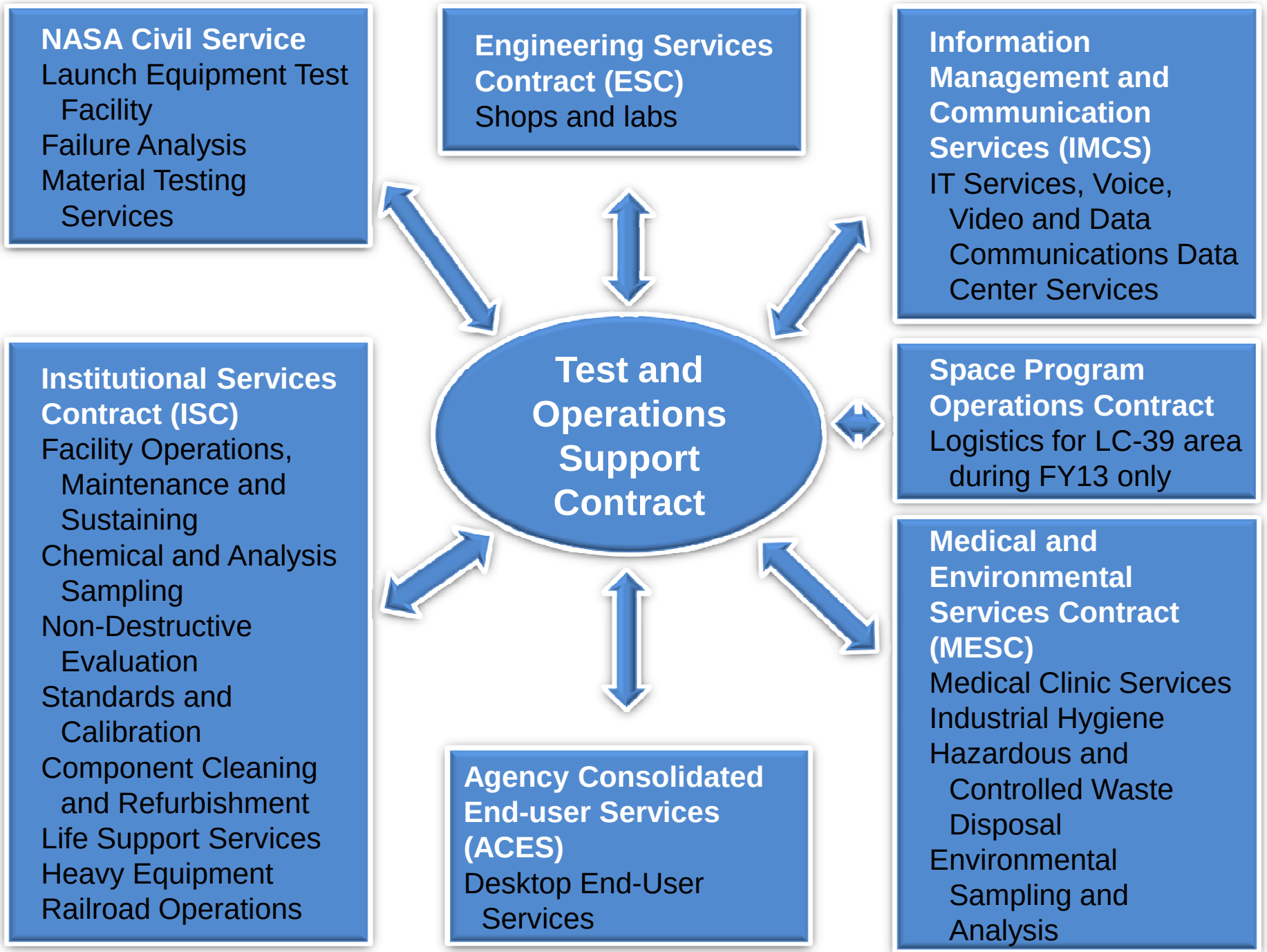
Institutional Services Contract (ISC)
Provider of facility O&M and sustaining, life support services, propellant services, transportation, and heavy equipment

Medical and Environmental Services Contract (MESC)
Provider of medical services, industrial hygiene, environmental services, and remediation

Engineering Services Contract (ESC)
Provider of ground systems design, engineering analysis and shops and laboratory O&M

Test and Operations Support Contract (TOSC)
Provider of ground processing, launch and recovery of flight hardware; and ground systems O&M and sustaining

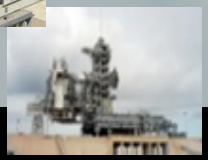
Government-Furnished Services



TOSC Processing Footprint

RPSF

Pads A&B



TPSF (Priced Option)

VAB, LCC

PHSF, MPPF

Hangar AF
(Priced Option)

SSPF, O&C

Performance Work Statement

- Section 1 Program and Business Management
- Section 2 Safety and Mission Assurance
- Section 3 Information Management
- Section 4 Processing Support and Integration
- Section 5 Flight Hardware Processing
- Section 6 Ground Systems
- Section 7 Logistics
- Section 8 Spaceport Services

PWS Section 1 Program and Business Management

- Section Summary
  - This section provides requirements for the overall project and business management of this contract. Also included are risk management, continuous improvement, project control, emergency management, flight readiness, security and environmental management.
  - The contractor is responsible for planning, organization, implementation, direction, control and reporting of all activities at all locations required by this contract. Contractor will support the Government who serves as the integrator between customers and contract implementation.

- PWS Highlights
  - Develop new and innovative approaches to program management across multiple and emerging customers
  - Describe approach for effective management of fluctuations in work load
  - Describe process for assessing and responding to Spaceport Services requests
  - Develop robust continuous improvement approach

PWS Section 2 Safety and Mission Assurance

- Section Summary
  - This section provides requirements to protect the public, the workforce, high-value equipment and property and the environment from harm and to assure mission success

- PWS Highlights
  - Develop and implement a Safety and Health Plan (KNPR 8715.3 and VPP compliant)
  - Develop and implement a Quality Management System (SAE AS9100 compliant)
  - Develop and implement processes to identify, eliminate, reduce, control and track hazards

PWS Section 3 Information Management

- Section Summary
  - This section provides requirements to develop, maintain, operate, integrate and secure information systems that provide for the management, preparation, publication, control and dissemination of information and data required by this contract

- PWS Highlights
  - Implement a Management Information System(s) (MIS) including tools that enable effective integration of contract requirements throughout the PWS
  - Establish effective data management approach utilizing industry standards for delivery, discovery, reuse, and sharing of data
  - Transition of legacy systems and associated data, assess for future use, and incorporate into MIS approach as appropriate

- Significant changes
  - Renamed PWS Section 3 to Information Management
    - Information Management Section is comprised of the Management Information System(s) (MIS), Information Technology (IT) tools and Data Management
  - Appendix 13 *Government-Furnished IT Legacy Systems* significantly modified
  - Appendix 14 *Government-Furnished Services* has been clarified to capture required versus optional usage of Kennedy Data Center (KDC)
    - KDC services brochure has been posted to the Bidders' Library
  - Added Appendix 17 *Offsite Data Center Requirements* defining requirements if housing MIS off Center

PWS Section 4 Processing Support and Integration

- Section Summary
  - This section provides requirements for processes, systems and tools to support flight hardware processing, ground operations, and logistics services. Section also includes requirements for advanced planning, manifest planning, contamination control, electromagnetic environmental effects control, and integration of ground processing activities in designated facilities

- PWS Highlights
  - PWS includes requirement to provide work planning, control, scheduling, authoring and configuration management system(s). PWS also requires these systems to be accessible and usable by government and government-designated personnel
  - TOSC performs Lead Facility Integrator role to integrate operations and maintenance functions in primary processing and support facilities as identified in Appendix 5 *Government-Furnished Facilities*
  - Support systems should be able to accommodate multiple customers' operations and activities
  - PWS includes advanced planning scope to provide processing operations expertise for new systems and process development

PWS Section 5.0 Flight Hardware Processing

- Section Summary
  - This section provides requirements for flight hardware processing activities, including operation of ground systems and equipment used in direct support of processing

- PWS Highlights
  - International Space Station (ISS)
    - Includes pressurized and unpressurized orbital replacement units, cargo and payload processing. Also includes utilization and research support for science experiment payloads
  - Launch Services
    - Host services for LSP spacecraft customers including receiving, transportation and security
  - SLS
    - Off-line vehicle processing to include processing activities within the RPSF and the VAB
  - MPCV
    - Off-line spacecraft processing, Portable Equipment, Payload and Cargo (PEPC) hardware stowage, and spacecraft recovery and deservicing
  - Integrated Vehicle Processing
    - Integrated vehicle assembly, test, and launch operations

PWS Section 5.0 Flight Hardware Processing

- Significant changes
  - ISS
    - Restructured High-Pressure Gas Servicing to Fluids Servicing to identify all fluids associated with ORU processing including ammonia and ISS water
    - Updated Appendix 4 *ISS Flight Certified Hardware* to identify certified ORU repair list for NASA Spacecraft Services Depot
    - Restructured Utilization Payload Operations Section (deleted reference to non-life science Utilization payloads) and identified Payload-to-FSE requirements in Section 5.1.2
  - SLS
    - Provided clarification on SLS Element and Assembly transfer locations
      - Core and Upper Stages received at the turn basin for transport to the VAB
      - Booster solid rocket motors offloaded at the RPSF complex for processing and storage
      - Booster forward assemblies and aft skirts received at ARF for transport to VAB and RPSF, respectively

PWS Section 6 Ground Systems

- Section Summary
  - This section provides requirements for ground systems project management; verification, validation and other support to NASA-managed projects; and ground systems operations, maintenance, sustaining engineering and analysis

- PWS Highlights
  - Appendix 7 *OMEU Matrix* captures TOSC responsibilities for new and legacy ground systems. New ground systems supporting 21CGS will be transferred to TOSC incrementally
  - Maintenance program for legacy ground systems during the early contract years that provides minimal maintenance and assures viability for future use
  - Significant verification and validation effort in support of 21CGS, including integrated validation testing that will be performed concurrently with flight hardware processing activities (minimal use of simulators and emulators)
  - No TOSC-assigned design or implementation of NASA-managed projects have been identified in the RFP. Scope for TOSC-assigned design and implementation of NASA-managed projects is in PWS Section 8
    - During contract performance, TOSC-assigned projects can be added either via IDIQ task order to Attachment J-12 *Task Order Summary* or contract change to base work via Appendix 9 *TOSC-Authorized Projects*

- Significant changes
  - Clarified verification and validation activities in PWS Section 6.2

PWS Section 7 Logistics

- Section Summary
  - This section provides requirements for logistics support including engineering, shops and labs, training, material management, property management and vehicle management for ground processing

- PWS Highlights
  - Provide cost-effective logistics services to multiple customers
  - NASA Spacecraft Services Depot certification is required
  - LC-39 Logistics Warehouse will be transitioned to TOSC following completion of Shuttle Transition & Retirement (T&R) and is anticipated to occur in late FY 13. Prior to transition, TOSC will coordinate with the Shuttle T&R contractor for packaging, handling and storage of LC-39 ground system spares

- Significant changes
  - NASA Spacecraft Services Depot facility certification has been changed to require completion no later than six months after contract start (previously required at contract start)
  - Appendix 16 *Legacy Flight Hardware* has been populated. This legacy flight hardware will be stored in the LC-39 Logistics Warehouse prior to transition to TOSC

PWS Section 8 Spaceport Services

- Section Summary
  - Provide NASA partners with access to TOSC spaceport services, capabilities, and expertise as requested via IDIQ
    - NASA partners include commercial entities and other government agencies

- PWS Highlights:
  - Spaceport Services range from individual tasks to more extensive processing support
    - Provide customized spaceport services to multiple customers (e.g., launch vehicle and spacecraft servicing, operational and engineering expertise)
    - Operate selected TOSC-assigned ground systems (e.g., selected cranes and servicing panels) in multi-use or shared facilities to support customer operations
    - Development of designated ground systems
  - Contractor will integrate base contract work and IDIQ customer support

TOSC Structure

CLIN	Description	Basic		Option 1		Option 2		Option 3	Option 4	Option 5	Option 6
		GFY 2013	GFY 2014	GFY 2015	GFY 2016	GFY 2017	GFY 2018	GFY 2019	GFY 2020	GFY 2021	GFY 2022
001	Base and IDIQ content: PWS Sections 1-8										
002	TPS Manufacturing Capability										
003	ISS Transition and Retirement										
004	Retrieval and Disassembly Systems and Operations										

Significant Changes

- CLIN 003 performance period modified from 2020-2021 to 2020-2022
- CLIN 004 modified from *Marine Vessels* to *Retrieval and Disassembly Systems and Operations*
  - In addition to Operations, Maintenance and Sustaining Engineering (OM&E) of the marine vessels, CLIN 004 includes SLS Booster retrieval and disassembly and associated ground systems OM&E

Unique Clauses

- Section B
  - B.2 Standardized Values
    - Identifies estimated non-labor costs only
  - B.3 Indefinite-Delivery/Indefinite-Quantity (IDIQ) Services (CLIN 001)
    - Maximum IDIQ value: $500 million (includes cost and fee)
  - B.7 Special Cost Requirements
    - Provisional indirect billing rates, fringe benefits, severance pay, relocation costs, and costs not subject to fee
  - B.8 Special Provisions Regarding Contract Adjustments
    - Fee threshold for equitable adjustments
- Section G
  - G.14 Designation of Contracting Officer's Technical Management Representatives (TMRs)
    - Contracting Officer's Technical Representative (COTR) may elect to have one or more TMRs for contract surveillance and monitoring of specified work areas

Unique Clauses (cont.)

- Section H
  - H.12 Limitation of Existing and Future Contracting
    - TOSC prime contractor cannot serve as the prime contractor on the following:
      - KSC Engineering Services Contract or successor contract
      - Kennedy LX Support Contractor or successor contract
      - KSC Safety and Mission Assurance Support Services Contract or successor contract
      - Contracts providing comparable services to those listed above
  - H.17 Work for Others
    - Clause facilitates the contractor's use of contract resources to perform work for others
      - The performance of work for others is not a contract requirement
      - Offeror's approach to identify, obtain and/or perform work for others will not be evaluated
  - H.19 Associate Contractor Relationships
  - H.23 Government's Right to Information Incidental to Contract Administration
  - H.26 Indemnification for Unusually Hazardous Risks
  - H.30 Government Performance of Activities

Section L: Instructions, Conditions, and Notices to Offerors

- This section contains specific instructions for development of the offeror's proposal including general proposal requirements and guidance on the areas to be addressed in:
  - Volume I Mission Suitability
  - Volume II Cost
  - Volume III Past Performance
  - Volume IV Other Plans and Data
- Contract phase-in costs, if proposed, will include all costs to be incurred during the period as firm-fixed-price and will be included in the offeror's total proposed costs.
  - Contract phase-in will not exceed 60 days
- Mission Suitability subfactor will be updated to permit proposals that exceed RFP requirements
  - Such proposals will be considered to the extent that the proposed performance capability is included within the offeror's proposed cost and the offeror commits to providing the capability as a contract requirement
- Cost Instructions and Cost Model will be addressed in the Cost Workshop

Source Selection Approach

- The Government will use a trade-off process, as described in FAR 15.101-1, in making source selection
  - Evaluation factors include: Mission Suitability, Cost, and Past Performance
    - Mission Suitability subfactors and weights:
      - Management approach: 375 points
      - Technical approach: 375 points
      - Safety, Mission Assurance and Environmental Approach: 150 points
      - Small Business Utilization: 100 points

- Relative order of importance of evaluation factors:
  - Mission Suitability and Past Performance, when combined, are approximately equal to Cost
  - Cost is more important than Mission Suitability, which is more important than Past Performance

In accordance with FAR 52.215-1, the Government intends to evaluate proposals and award a contract without discussion with offerors (except clarifications as described in FAR 15.306(a))

Source Selection Approach (cont.)

- Mission Suitability subfactors will be evaluated using the adjectival ratings, definitions and percentile ranges per NFS 1815.305(a)(3)(A)
- Past Performance will be evaluated using levels of confidence ratings per NFS 1815.305(a)(2)(A)
  - Relevant performance in the past 5 years will be evaluated
  - Relevant past performance includes hazardous activities involving risk to human life and complex, high-value systems
  - Relevant past performance should consider both the nature and magnitude of the effort(s) as they relate to any one of the following:
    - Human spaceflight experience, or
    - Spaceflight hardware experience, or
    - High risk, hazardous activities in areas other than space
- Cost factor will not be weighted or scored
  - The Government will perform a cost analysis and a cost realism analysis
  - Offerors are advised that a lack of resource realism may adversely affect their Mission Suitability score and result in probable cost adjustments under the cost factor

Section M: Evaluation of Mission Suitability

- Mission Suitability will be evaluated and scored based on the following subfactors:
  - Management Approach
    - The offeror's overall management approach for providing flexible, effective and efficient implementation of the contract requirements
    - The offeror's ability to accommodate changing requirements, priorities, and workload fluctuations in support of multiple customers, including Spaceport Services
  - Technical Approach
    - The offeror's strategies, processing efficiencies, innovations, resource synergies, priorities, policies and procedures
    - The offeror's technical approach to utilize expertise, capabilities, assets and processing support systems in support of spaceport services
  - Safety, Mission Assurance and Environmental Approach
    - The offeror's approach to satisfying safety, mission assurance and environmental requirements
    - The offeror's strategies, policies, processes, innovations, improvements, and priorities
  - Small Business Utilization
    - The offeror's proposed subcontracting goals and the extent to which work is performed by small business subcontractors

Section M: Evaluation of Mission Suitability (cont.)

- The offeror's response to the scenarios in Attachment L-08, Scenarios will be evaluated under the applicable Mission Suitability subfactor.
  - For understanding of RFP requirements and consistency with proposed Management, Technical and Safety, Mission Assurance and Environmental approaches
  - For demonstration of comprehensive solutions to each scenario

TOSC Proposal Submission Schedule

- Per posted synopsis RFP Release target: December 2, 2011
- Proposal Due Dates
  - Volume III Past Performance: February 1, 2012
  - Volume I Mission Suitability and Volume IV Other Plans and Data: February 14, 2012
  - Cost Volume: February 21, 2012
- Contract Award: October 2012
- Performance Start: January 2, 2013

How to Stay Connected

- Federal Business Opportunities (FedBizOpps):
  - www.fbo.gov
  - Registration required
- NASA Acquisition Internet Service (NAIS):
  - http://procurement.nasa.gov
- KSC Procurement Website:
  - http://procurement.ksc.nasa.gov
- TOSC Website:
  - http://tosc.ksc.nasa.gov/

It is your responsibility to monitor the websites for release of any information regarding this procurement

Bidder's Library Access

- Bidder's Library:
  - TOSC website http://tosc.ksc.nasa.gov/ for public information (register for access)
    - To access TOSC Bidders Library, from main page click "Document Library". Searches available by document number or category
  - FedBizOpps website www.fbo.gov for sensitive data (register for access)
    - All document file names will begin with "TOSC"

Agenda

Wednesday, November 16, 2011

- Presentations (8:30 a.m. to 11:00 a.m.)
  - Welcome and Overview – Laura Govan
  - International Space Station (ISS) Program – UB/Rob Yaskovic
  - Exploration Systems Development and 21st Century Ground Systems Program – LX/Pepper Phillips
  - KSC Ground Processing Directorate – GP/Scott Kerr
  - TOSC Draft Request for Proposal (RFP) Review – Laura Govan
  - Instructions for Site Visit and One-on-One Meeting– Laura Govan

- Lunch/Conference Room Reconfiguration (11:00 am – 1:00 pm)

- One-On-One Meetings (1:00 pm – 4:00 pm)

Site Visit Itinerary

November 17, 2011

- Launch Complex 39 (LC-39)
  - Buses depart from KSC Visitor Complex parking lot at 8:30 a.m. and return at 3:00 p.m.
  - Site visit includes walking and bus tours of the following facilities and ground systems:
    - Launch Pad 39A and 39B
    - Rotation, Processing and Surge Facility
    - Crawler Transporter Maintenance Facility
    - Thermal Protection Systems Facility
    - Launch Equipment Shop
    - Vehicle Assembly Building
    - Crawler Transporter
    - Mobile Launcher
    - Launch Control Center
    - Logistics Facility
  - Lunch: Multi-Functional Facility Cafeteria

November 18, 2011

- KSC Industrial Area and Hangar AF Complex
  - Buses depart from KSC Visitor Complex parking lot at 8:30 a.m. and return at 12:00 p.m.
  - Site visit includes walking and bus tours of the following facilities and ground systems:
    - Multi-Payload Processing Facility
    - Space Station Processing Facility
    - NASA Spacecraft Services Depot
    - Payload Hazardous Servicing Facility
    - ISS Warehouses #1 & #2
    - Hangar AF and Marine Vessels

Site Visit Guidelines

- Site visit guidelines
  - Please ensure proper attire (closed-toe shoes, long pants, no high heels, no sleeveless shirts) prior to boarding tour buses
  - Operations may be on-going in some areas
  - Interactions with personnel in the toured facilities are prohibited
  - All personnel must stay with the tour for the duration
  - Photography may be prohibited based on operational requirements

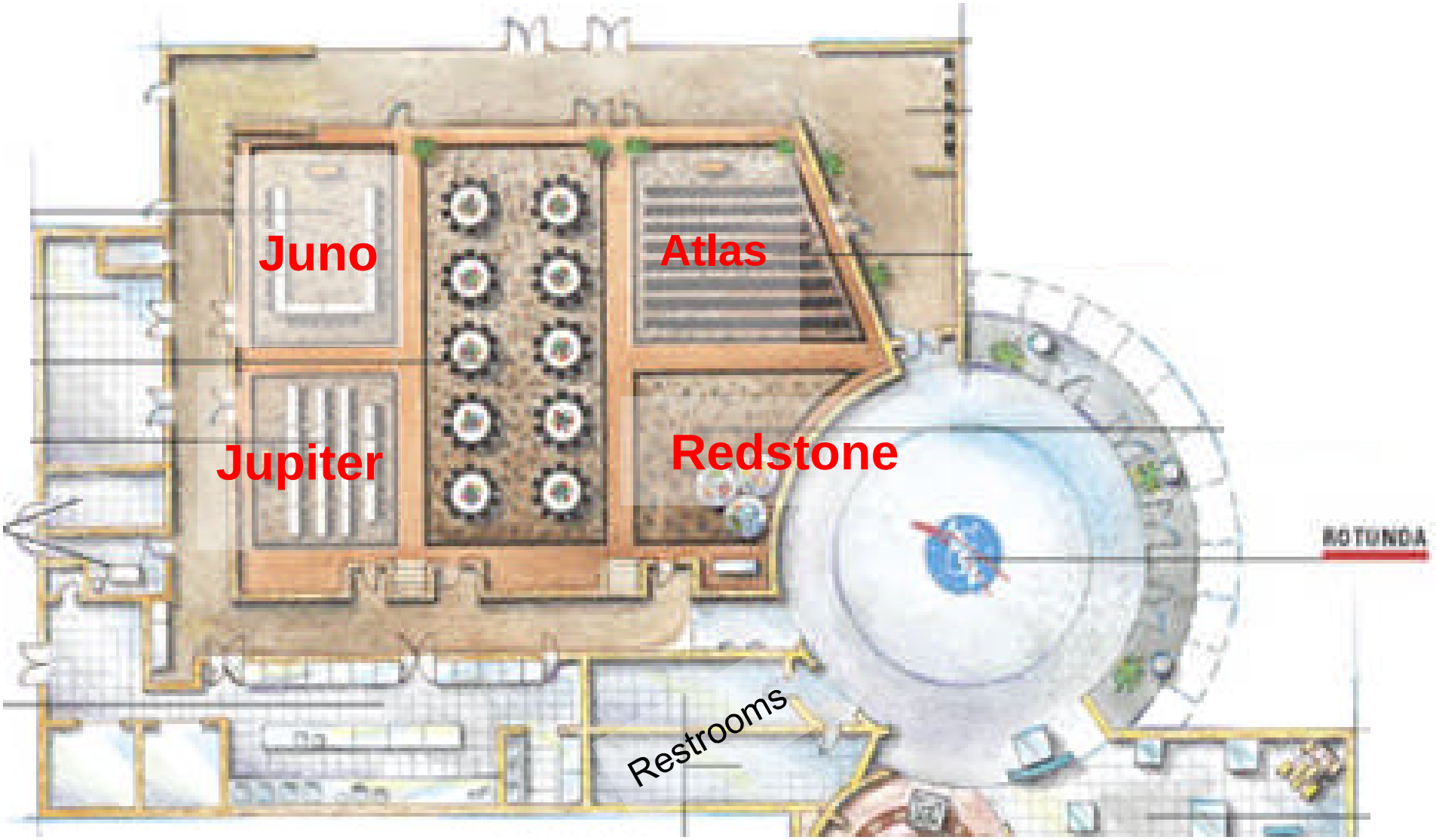
- Video and audio recording is prohibited

One-on-One Instructions

- One-on-one meetings will begin at 1:00 p.m.
  - Please note that neither side will be making a formal presentation during the one-on-one meeting and recording devices are not permitted
  - Meetings will not exceed 25 minutes in length and attendance is limited to 5 attendees
  - Meetings will occur every 30 minutes between 1:00 p.m. to 4:00 p.m.

Time	Atlas Breakout Room	Juno Breakout Room	Jupiter Breakout Room	Redstone Breakout Room
1:00 - 1:25	Harris Corporation	Enterprise Advisory Services, Inc.	ARES Corporation	MRI Technologies
1:30 - 1:55	Jacobs Technology, Inc.	LJT & Associates, Inc.	Barrios Technology	Leaping Catch, LLC
2:00 - 2:25	Lockheed Martin	Raytheon Technical Services	Bastion Technologies, Inc.	Summit Technologies & Solutions, Inc.
2:30 - 2:55	Northrop Grumman Corporation	Yang Enterprises, Inc.	All Points Logistics	IBM
3:00 - 3:25	The Boeing Company	Honeywell	NetLander, Inc.	Booz Allen Hamiliton
3:30 - 3:55	United Space Alliance	Genesis VII, Inc.	B&K Government & Engineering Services	GHG Corporation

Facility Layout



Thank you for attending!

A copy of this presentation, questions and answers and the attendance list will be posted on the acquisition website:

http://tosc.ksc.nasa.gov

Acceptable and Unacceptable Topics for Discussion

- **Acceptable topics for the one-on-one meeting**
  - The general purpose of TOSC
  - Any information about TOSC or KSC that NASA has already made accessible to the public or is otherwise being made available to all interested parties
  - Historical information about the general nature or scope of prior similar contracts whose requirements may be similarly addressed in whole or in part under TOSC
  - Information that describes the federal procurement process as defined in the Federal Acquisition Regulation (FAR) or NASA FAR Supplement
  - Procurement specific information already published such as information contained in the sources sought synopsis or other information published on the TOSC website
- **Unacceptable topics for the one-on-one meeting**
  - Proprietary or confidential business information of contractor(s) or other business entities performing similar ongoing efforts
  - Privacy Act protected information such as existing contractor employees' personal data
  - Trade Secrets Act protected information
  - Speculation on what the Government might be looking for in the proposals
  - Different technical and management approaches
  - Technical efficiencies
  - Any particular Government emphasis
  - Performance of contractors providing similar requirements